

**National Load Despatch Centre**  
**Total Transfer Capability for July 2013**

Issue Date: 01/07/2013

Issue Time: 1245 hrs

Revision No. 4

# against any corridor indicates that revision has been done for this corridor

| 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 July 2013 to 31st July 2013 | 00-24             | 2500                            | 500                | 2000                                | 286  | 1714   |                                     | Revised due to commissioning of 765 kV Agra-Jhatikara.   |
| WR-NR <sup>1</sup>      | 1st July 2013 to 31st July 2013 | 00-24             | 5700 <sup>Δ</sup>               | 500                | 5200 <sup>Δ</sup>                   | 2787 <sup>Δ</sup>                                      | 2413   |                                     | Revised due to commissioning of 765 kV Agra-Jhatikara.   |
| NR-ER                   | 1st July 2013 to 31st July 2013 | 00-17             | 1000                            | 200                | 800                                 | 0  | 800  |                                     |  |
|                         |                                 | 23-24             | 1100                            |                    | 900                                 |  | 900  |                                     |  |
| ER-NR                   | 1st July 2013 to 31st July 2013 | 00-17             | 4000                            | 500                | 3500                                | 2189   | 1311   |                                     |  |
|                         |                                 | 23-24             |                                 |                    |                                     |  | 1311   |                                     |  |
| W3-ER                   | 1st July 2013 to 31st July 2013 | 00-24             | 1650                            | 300                | 1350                                | 0  | 1350   |                                     |  |
| ER-W3                   | 1st July 2013 to 31st July 2013 | 00-24             | 1000                            | 300                | 700                                 | 700  | 0  |                                     |  |
| WR-SR                   | 1st July 2013 to 31st July 2013 | 00-24             | 1000                            | 0                  | 1000                                | 1000   | 0  |                                     |  |
| SR-WR                   | 1st July 2013 to 31st July 2013 | 00-24             | 1000                            | 0                  | 1000                                | 0  | 1000   |                                     |  |
| ER-SR                   | 1st July 2013 to 31st July 2013 | 00-05             | 1000*                           | 0                  | 1000*                               | 612  | 388*   |                                     | Revised due to Maintenance schedule of Talcher Stage-II Unit-III.  |
|                         |                                 | 10-19             | 1000*                           |                    | 1000*                               |  | 388*   |                                     |  |
| SR-ER                   | 1st July 2013 to 31st July 2013 | 00-17             | 700                             | 0                  | 700                                 | 197  | 503  |                                     |  |
|                         |                                 | 23-24             | 700                             |                    | 700                                 |  | 503  |                                     |  |
| ER-NER                  | 1st July 2013 to 31st July 2013 | 00-17             | 590                             | 35                 | 555                                 | 230  | 325  |                                     |  |
|                         |                                 | 23-24             | 510                             |                    | 475                                 |  | 245  |                                     |  |
| NER-ER#                 | 1st July 2013                   | 00-17             | 570                             | 100                | 470                                 | 0  | 470  |                                     |  |
|                         |                                 | 23-24             | 355                             |                    | 255                                 |  | 255  |                                     |  |
|                         | 2nd July 2013 to 31st July 2013 | 00-17             | 570                             | 100                | 470                                 | 0  | 470  | 145                                 | Revised due to change in Load Generation balance in North-Eastern Region.  |
|                         |                                 | 23-24             | 500                             |                    | 400                                 |  | 400  |                                     |  |
| S1-S2                   | 1st July 2013 to 31st July 2013 | 00-24             | 5400                            | 200                | 5200                                | 4600   | 600  |                                     | Revised due to Non-Commissioning of Kudankulam.  |
| Import of Punjab        | 1st July 2013 to 31st July 2013 | 00-24             | 5600                            | 300                | 5300                                | 3475   | 1825   |                                     | Revised due to change in LTA/MTOA quantum.   |
| Import TTC for DD & DNH | 1st July 2013 to 31st July 2013 | 00-24             | 980                             | 0                  | 980                                 | LTA and MTOA as per ex-pp schedule                     |  |                                     |  |
| W3 zone Injection       | 1st July 2013 to 31st July 2013 | 00-17,            | 9000                            | 200                | 8800                                | 7630   | 1170   |                                     | 7630 MW corresponds to maximum effective LTA/ MTOA from W3. Export Margin from W3 would vary as per the maintenance schedule of generators in the zone |
|                         |                                 | 23-24             | 9500                            |                    | 9300                                |  | 1670   |                                     |  |

\* additional 350 MW can be transferred to SR if injection point is South odisha.

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

Δ. includes 1500 MW on the dedicated Mundra-Mohindergarh HVDC bipole of M/s Adani Power Limited which is scheduled separately from the generation at stage-III of APL Mundra (3\*660 MW).

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- I. (A) WR-NR Total Transfer capability will be reduced to 5200 MW in case of outage of any one of the following sections:**
- 765 kV Agra-Jhatikara
  - 765 kV Agra-Meerut
  - One of the 765/400 kV 1500 MVA ICT at Agra
- (B) 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

**Limiting Constraints**

| Corridor                 | Constraint  |
|--------------------------|---|
| <b>NR-WR</b>             | (n-1) contingency of 400kV Zerda-Bhinmal and (n-1) contingency of 220kV Badod-Modak.  |
| <b>WR-NR</b>             | (n-1) contingency of 765 kV Agra-Jhatikara  |
| <b>NR-ER</b>             | (n-1) contingency of 400 kV Allahabad-Pusauli   |
| <b>ER-NR</b>             | (n-1) contingency of 400 kV Purnea-Muzaffarpur  |
| <b>W3-ER</b>             | (n-1) contingency of either 400 kv Mejia-Maithon or<br>(n-1) contingency of 400 kv MPL -maithon   |
| <b>ER-W3</b>             | High loading of 400 kV Raipur-Bhadrawati T/C, Bhilai-Bhadrawati S/C, Bhilai-Koradi and Bhilai-Seoni*<br>(n-1) contingency of 400kV Rourkela-Raigarh |
| <b>WR-SR</b>             | Bhadrawati HVDC B/B link capacity   |
| <b>SR-WR</b>             | Bhadrawati HVDC B/B link capacity   |
| <b>ER-SR</b>             | (n-1) contingency of 400 kV Rourkela-Talcher  |
| <b>SR-ER</b>             |   |
| <b>ER-NER</b>            | (n-1) contingency of 400/220 kV,315 MVA ICT at Misa*<br>(n-1) contingency of 400 kV Binaguri-Bongaigaon   |
| <b>NER-ER</b>            | (n-1) contingency of 400/220 kV,315 MVA ICT at Misa*<br>(n-1) contingency of 400 kV Purnea-Muzaffarpur  |
| <b>S1-S2</b>             | (n-1) contingency of 400 kV Kolar-Hosur D/C line, 400kV Hosur-Salem S/C<br>and 400kV Somanahalli-Salem S/C line.                                    |
| <b>Import of Punjab</b>  | (n-1) contingency of ICT at Patiala/Moga  |
| <b>W3 zone Injection</b> | (n-1-1) contingency of 400 kV Raipur-Bhadrawati D/C section   |

### 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 <sup>1</sup> | 1st July 2013 to 31st July 2013 | 00-17<br>23-24    | 9700 <sup>Δ</sup>               | 1000               | 8700 <sup>Δ</sup>                   | 4976 <sup>Δ</sup>                                      | 3724   |                                     | Revised due to commissioning of 765 kV Agra-Jhatikara.            |
|                 |                                 | 17-23             |                                 |                    | 8700 <sup>Δ</sup>                   |  | 3724   |                                     |   |
| NER             | 1st July 2013 to 31st July 2013 | 00-17<br>23-24    | 590                             | 35                 | 555                                 | 230  | 325  |                                     |   |
|                 |                                 | 17-23             |                                 |                    | 475                                 |  | 245  |                                     |   |
| WR              |                                 |                   |                                 |                    |                                     |  |  |                                     |   |
| SR              | 1st July 2013 to 31st July 2013 | 00-05<br>10-19    | 2000*                           | 0                  | 2000*                               | 1612   | 388*   |                                     | Revised due to Maintenance schedule of Talcher Stage-II Unit-III. |
|                 |                                 | 05-10<br>19-24    | 2000*                           |                    | 2000*                               |  | 388*   |                                     |   |

\* additional 350 MW can be transferred to SR if injection point is South odisha.

Δ. includes 1500 MW on the dedicated Mundra-Mohindergarh HVDC bipole of M/s Adani Power Limited which is scheduled separately from the generation at stage-III of APL Mundra (3\*660 MW).

**I. (A) WR-NR Total Transfer capability will be reduced to 5200 MW in case of outage of any one of the following sections:**

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- 765 kV Agra-Meerut
- One of the 765/400 kV 1500 MVA ICT at Agra

**(B) 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

### 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 July 2013 to 31st July 2013 | 00-17<br>23-24    | 3500                            | 700                | 2800                                | 286  | 2514   |                                     | Revised due to commissioning of 765 kV Agra-Jhatikara.                    |
|          |                                 | 17-23             | 3600                            |                    | 2900                                |  | 2614   |                                     |   |
| NER#     | 1st July 2013                   | 00-17<br>23-24    | 570                             | 100                | 470                                 | 0  | 470  |                                     |   |
|          |                                 | 17-23             | 355                             |                    | 255                                 |  | 255  |                                     |   |
|          | 2nd July 2013 to 31st July 2013 | 00-17<br>23-24    | 570                             | 100                | 470                                 | 0  | 470  | 145                                 | Revised due to change in Load Generation balance in North-Eastern Region. |
|          |                                 | 17-23             | 500                             |                    | 400                                 |  | 400  |                                     |   |
| WR       |                                 |                   |                                 |                    |                                     |  |  |                                     |   |
| SR       | 1st July 2013 to 31st July 2013 | 00-17<br>23-24    | 1700                            | 0                  | 1700                                | 197  | 1503   |                                     |   |
|          |                                 | 17-23             | 1700                            |                    | 1700                                |  | 1503   |                                     |   |

### Limiting Constraints

|     |        |   |
|-----|--------|---|
| NR  | Import | (n-1) contingency of 400 kV Purnea-Muzaffarpur<br>(n-1) contingency of 765 kV Agra-Jhatikara  |
|     | Export | (n-1) contingency of 400kV Zerda-Bhinmal and (n-1) contingency of 220kV Badod-Modak.<br>(n-1) contingency of 400 kV Allahabad-Pusauli |
| NER | Import | (n-1) contingency of 400/220 kV,315 MVA ICT at Misa<br>(n-1) contingency of 400 kV Binaguri-Bongaigaon                                |
|     | Export | (n-1) contingency of 400/220 kV,315 MVA ICT at Misa<br>(n-1) contingency of 400 kV Purnea-Muzaffarpur                                 |
| SR  | Import | (n-1) contingency of 400 kV Rourkela-Talcher<br>Bhadrawati HVDC B/B link capacity   |
|     | Export | Bhadrawati HVDC B/B link capacity   |

## ASSUMPTIONS IN BASECASE

Month: July 2013

| S.No.      | Name of State/Area          | Load           |                    | Generation    |               |
|------------|-----------------------------|----------------|--------------------|---------------|---------------|
|            |                             | Peak Load (MW) | Off Peak Load (MW) | Peak (MW)     | Off Peak (MW) |
| <b>I</b>   | <b>NORTHERN REGION</b>      |                |                    |               |               |
| 1          | Punjab                      | 5637           | 5311               | 2111          | 2126          |
| 2          | Haryana                     | 5363           | 5014               | 3289          | 3289          |
| 3          | Rajasthan                   | 6574           | 5912               | 3466          | 3472          |
| 4          | Delhi                       | 4605           | 3932               | 1416          | 1416          |
| 5          | Uttar Pradesh               | 10824          | 10831              | 6163          | 5976          |
| 6          | Jammu & Kashmir             | 1825           | 1671               | 604           | 592           |
| 7          | Uttarakhand                 | 1476           | 1081               | 757           | 673           |
| 8          | Himachal Pradesh            | 1043           | 943                | 590           | 493           |
| 9          | Chandigarh                  | 227            | 192                | 0             | 0             |
| 10         | ISGS                        |                |                    | 16916         | 14627         |
|            | <b>Total NR</b>             | <b>37574</b>   | <b>34888</b>       | <b>35312</b>  | <b>32663</b>  |
| <b>II</b>  | <b>EASTERN REGION</b>       |                |                    |               |               |
| 1          | West Bengal                 | 6500           | 4516               | 4738          | 4024          |
| 2          | Jharkhand                   | 1100           | 750                | 603           | 354           |
| 3          | Orissa                      | 3400           | 2760               | 2611          | 2266          |
| 4          | Bihar                       | 1800           | 1400               | 0             | 0             |
| 5          | Damodar Valley Corporation  | 2309           | 2209               | 3404          | 3404          |
| 6          | Sikkim                      | 40             | 40                 | 0             | 0             |
| 7          | Bhutan                      | 111            | 111                | 1326          | 1326          |
| 8          | ISGS                        |                |                    | 5971          | 5971          |
|            | <b>Total ER</b>             | <b>15260</b>   | <b>11786</b>       | <b>18653</b>  | <b>17345</b>  |
| <b>III</b> | <b>WESTERN REGION</b>       |                |                    |               |               |
| 1          | Chattisgarh                 | 2977           | 2132               | 2518          | 1985          |
| 2          | Madhya Pradesh              | 7112           | 4894               | 3601          | 2802          |
| 3          | Maharashtra                 | 15798          | 12916              | 13113         | 9454          |
| 4          | Gujarat                     | 10470          | 8369               | 10918         | 7764          |
| 5          | Goa                         | 327            | 198                |               |               |
| 6          | Daman and Diu               | 260            | 181                |               |               |
| 7          | Dadra and Nagar Haveli      | 612            | 479                |               |               |
| 8          | ISGS                        |                |                    | 13063         | 11996         |
|            | <b>Total WR</b>             | <b>37556</b>   | <b>29169</b>       | <b>43213</b>  | <b>34001</b>  |
| <b>IV</b>  | <b>SOUTHERN REGION</b>      |                |                    |               |               |
| 1          | Andhra Pradesh              | 9995           | 9192               | 6432          | 5882          |
| 2          | Tamil Nadu                  | 11922          | 9480               | 7337          | 5117          |
| 3          | Karnataka                   | 7600           | 6042               | 4850          | 3856          |
| 4          | Kerala                      | 3363           | 2500               | 2116          | 1320          |
| 5          | Pondy                       | 310            | 250                |               |               |
| 6          | Goa                         | 84             | 84                 |               |               |
| 7          | ISGS                        |                |                    | 10549         | 9990          |
|            | <b>Total SR</b>             | <b>33274</b>   | <b>27548</b>       | <b>31284</b>  | <b>26165</b>  |
| <b>V</b>   | <b>NORTH-EASTERN REGION</b> |                |                    |               |               |
| 1          | Manipur                     | 103            | 88                 | 0             | 0             |
| 2          | Meghalaya                   | 280            | 195                | 162           | 76            |
| 3          | Mizoram                     | 67             | 57                 | 6             | 6             |
| 4          | Nagaland                    | 92             | 84                 | 10            | 10            |
| 5          | Assam                       | 808            | 670                | 231           | 231           |
| 6          | Tripura                     | 190            | 145                | 10            | 63            |
| 7          | Arunachal Pradesh           | 100            | 78                 | 0             | 0             |
| 8          | ISGS                        | 0              | 0                  | 927           | 829           |
|            | <b>Total NER</b>            | <b>1640</b>    | <b>1317</b>        | <b>1346</b>   | <b>1215</b>   |
|            | <b>Total All India</b>      | <b>125305</b>  | <b>104708</b>      | <b>129808</b> | <b>111389</b> |