

National Load Despatch Centre राष्ट्रीय भार प्रेषण केंद्र

POWER SYSTEM OPERATION CORPORATION LIMITED पॉवर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड

(Government of India Enterprise/ भारत सरकार का उद्यम) B-9, QUTUB INSTITUTIONAL AREA, KATWARIA SARAI, NEW DELHI -110016 बी-9, कृतुब इन्स्टीट्यूशनल एरिया, कटवारिया सराये, न्यू दिल्ली-110016

Ref: POSOCO/NLDC/SO/Daily PSP Report

दिनांक: 01st July 2018

Τо

- 1. महाप्रबंधक, पू .क्षे .भा .प्रे .के., 14 , गोल्फ क्लब रोड , कोलकाता 700033 General Manager, ERLDC, 14 Golf Club Road, Tolleygunge, Kolkata, 700033
- 2. महाप्रबंधक, ऊ. क्षे. भा. प्रे. के., 18/ ए, शहीद जीत सिंह सनसनवाल मार्ग, नई दिल्ली 110016 General Manager, NRLDC, 18-A, Shaheed Jeet Singh Marg, Katwaria Sarai, New Delhi 110016
- 3. महाप्रबंधक, प .क्षे .भा .प्रे .के., एफ3-, एम आई डी सी क्षेत्र , अंधेरी, मुंबई -400093 General Manager, WRLDC, F-3, M.I.D.C. Area, Marol, Andheri (East), Mumbai-400093
- 4. महाप्रबंधक, ऊ. पू. क्षे. भा. प्रे. के., डोंगतिएह, लोअर नोंग्रह , लापलंग, शिलोंग ७९३००६ General Manager, NERLDC, Dongteih, Lower Nongrah, Lapalang, Shillong - 793006, Meghalaya
- 5. अपर महाप्रबंधक , द .क्षे .भा .प्रे .के., २९ , रेस कोर्स क्रॉस रोड, बंगलुरु –५६०००९ Additional General Manager, SRLDC, 29, Race Course Cross Road, Bangalore-560009

Sub: Daily PSP Report for the date 30.06.2018.

महोदय/Dear Sir,

आई॰ई॰जी॰सी॰-2010 की धारा स.-5.5.1 के प्रावधान के अनुसार, दिनांक 30-जून 2018 की अखिल भारतीय प्रणाली की दैनिक ग्रिंड निष्पादन रिपोर्ट रा॰भा॰प्रे॰के॰ की वेबसाइट पर उप्लब्ध है

As per article 5.5.1 of the Indian Electricity Grid Code, the daily report pertaining power supply position of All India Power System for the date 30th June 2018, is available at the NLDC website.

धन्यवाद,

पॉवर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड राष्ट्रीय भार प्रेषण केंद्र, नई दिल्ली

Report for previous day **Date of Reporting** 1-Jul-18

A. Maximum Demand

| | NR | WR | SR | ER | NER | Total |
|---|-------|-------|-------|-------|-------|--------|
| Demand Met during Evening Peak hrs(MW) (at 2000 hrs; from RLDCs) | 51848 | 44274 | 39142 | 19210 | 2599 | 157073 |
| Peak Shortage (MW) | 1346 | 227 | 0 | 0 | 159 | 1733 |
| Energy Met (MU) | 1170 | 1014 | 880 | 428 | 49 | 3540 |
| Hydro Gen (MU) | 316 | 21 | 74 | 76 | 23 | 510 |
| Wind Gen (MU) | 4 | 57 | 96 | | | 157 |
| Solar Gen (MU)* | 13.97 | 18.29 | 55.79 | 0.78 | 0.01 | 89 |
| Energy Shortage (MU) | 11.1 | 0.0 | 0.0 | 0.0 | 1.4 | 12.5 |
| Maximum Demand Met during the day | 54293 | 44623 | 40199 | 20581 | 2645 | 160437 |
| (MW) & time (from NLDC SCADA) | 21:09 | 14:25 | 19:29 | 20:30 | 18:56 | 20:15 |

B. Frequency Profile (%)

| Region | FVI | <49.7 | 49.7-49.8 | 49.8-49.9 | <49.9 | 49.9-50.05 | > 50.05 |
|-----------|-------|-------|-----------|-----------|-------|------------|---------|
| All India | 0.064 | 0.27 | 2.08 | 15.36 | 17.71 | 76.39 | 5.90 |

| Region | States | Max. Demand Met during the | Shortage during maximum Demand | Energy Met (MU) | Drawal | OD(+)/UD(-) | Max OD | Energy |
|--------|-------------------|-------------------------------|--------------------------------|-----------------|---------------|-------------|--------|---------------|
| Ü | | day (MW) | (MW) | a | Schedule (MU) | (MU) | (MW) | Shortage (MU) |
| | Punjab | 9503 | 0 | 206.4 | 122.5 | 0.0 | 119 | 0.0 |
| | Haryana | 8454 | 0 | 178.4 | 146.8 | 1.5 | 334 | 0.1 |
| | Rajasthan | 7424 | 651 | 160.3 | 52.0 | 3.1 | 516 | 1.8 |
| | Delhi | 5621 | 0 | 113.1 | 93.2 | -0.8 | 87 | 0.0 |
| NR | UP | 18089 | 30 | 394.9 | 182.0 | 0.1 | 218 | 0.0 |
| | Uttarakhand | 2059 | 0 | 45.5 | 16.3 | -0.2 | 158 | 0.0 |
| | HP | 1368 | 0 | 26.6 | 1.6 | 1.8 | 237 | 0.0 |
| | J&K | 1996 | 499 | 38.6 | 16.8 | -3.5 | 237 | 9.2 |
| | Chandigarh | 293 | 0 | 6.0 | 6.4 | -0.4 | 18 | 0.0 |
| | Chhattisgarh | 3648 | 0 | 82.5 | 18.0 | 0.1 | 267 | 0.0 |
| | Gujarat | 14478 | 0 | 318.7 | 123.4 | 1.6 | 511 | 0.0 |
| | MP | 7536 | 0 | 159.6 | 50.5 | -1.0 | 200 | 0.0 |
| WR | Maharashtra | 18898 | 0 | 413.7 | 135.0 | -1.5 | 373 | 0.0 |
| VVIN | Goa | 406 | 0 | 9.3 | 9.1 | -0.5 | 51 | 0.0 |
| | DD | 324 | 0 | 7.3 | 6.7 | 0.7 | 63 | 0.0 |
| | DNH | 751 | 0 | 17.4 | 16.7 | 0.8 | 69 | 0.0 |
| | Essar steel | 286 | 0 | 5.1 | 5.6 | -0.5 | 162 | 0.0 |
| | Andhra Pradesh | 7600 | 0 | 165.4 | 36.9 | 1.0 | 420 | 0.0 |
| | Telangana | 7280 | 0 | 155.1 | 73.9 | -1.1 | 322 | 0.0 |
| SR | Karnataka | 8521 | 0 | 180.2 | 62.9 | 1.7 | 524 | 0.0 |
| Jii | Kerala | 3294 | 0 | 64.7 | 41.2 | 0.3 | 285 | 0.0 |
| | Tamil Nadu | 13868 | 0 | 308.2 | 130.5 | 5.2 | 580 | 0.0 |
| | Pondy | 364 | 0 | 6.7 | 6.9 | -0.3 | 37 | 0.0 |
| | Bihar | 4657 | 0 | 89.8 | 90.3 | -2.9 | 0 | 0.0 |
| | DVC | 3054 | 0 | 69.4 | -30.5 | -0.1 | 120 | 0.0 |
| ER | Jharkhand | 1088 | 0 | 24.2 | 17.0 | 1.5 | 100 | 0.0 |
| Liv | Odisha | 3726 | 0 | 74.3 | 36.1 | 0.8 | 360 | 0.0 |
| | West Bengal | 8394 | 0 | 169.3 | 48.6 | 5.4 | 410 | 0.0 |
| | Sikkim | 83 | 0 | 1.2 | 1.2 | -0.1 | 18 | 0.0 |
| | Arunachal Pradesh | 118 | 5 | 2.2 | 2.7 | -0.5 | 0 | 0.0 |
| | Assam | 1652 | 119 | 30.8 | 25.9 | 0.8 | 152 | 1.3 |
| | Manipur | 167 | 2 | 2.2 | 2.7 | -0.4 | 9 | 0.0 |
| NER | Meghalaya | 289 | 7 | 5.4 | 0.8 | 0.1 | 134 | 0.0 |
| | Mizoram | 84 | 2 | 1.6 | 0.7 | 0.3 | 17 | 0.0 |
| | Nagaland | 116 | 5 | 2.3 | 2.0 | 0.1 | 18 | 0.0 |
| | Tripura | 251 | 5 | 4.1 | 4.1 | -0.3 | 30 | 0.0 |

 $\textbf{D. Transnational Exchanges} \ \ (MU) \ \textbf{- Import} (+ve) / Export (-ve)$

| | Bhutan | Nepal | Bangladesh |
|---------------|--------|--------|------------|
| Actual(MU) | 22.1 | -5.1 | -14.4 |
| Day peak (MW) | 1106.3 | -429.0 | -644.1 |

$E.\ Import/export\ By\ Regions (in\ MU)\ -\ Import(+ve)/Export(-ve);\ OD(+)/UD(-)$

| | NR | WR | SR | ER | NER | TOTAL |
|--------------|-------|--------|------|-------|------|-------|
| Schedule(MU) | 273.7 | -260.7 | 69.6 | -82.6 | 0.4 | 0.4 |
| Actual(MU) | 260.2 | -265.5 | 75.5 | -72.3 | -1.1 | -3.2 |
| O/D/U/D(MU) | -13.5 | -4.8 | 5.9 | 10.3 | -1.5 | -3.6 |

F. Generation Outage(MW)

| | NR | WR | SR | ER | NER | Total |
|----------------|-------|-------|-------|------|-----|-------|
| Central Sector | 5752 | 13126 | 10032 | 445 | 118 | 29473 |
| State Sector | 6435 | 16220 | 9330 | 5755 | 50 | 37790 |
| Total | 12187 | 29346 | 19362 | 6200 | 168 | 67262 |

G. Sourcewise generation (MU)

| | NR | WR | SR | ER | NER | All India |
|-------------------------------------|-----|------|-----|-----|-----|-----------|
| Thermal (Coal & Lignite) | 521 | 1125 | 492 | 448 | 8 | 2594 |
| Hydro | 316 | 21 | 75 | 76 | 23 | 512 |
| Nuclear | 30 | 29 | 45 | 0 | 0 | 104 |
| Gas, Naptha & Diesel | 27 | 49 | 16 | 0 | 22 | 114 |
| RES (Wind, Solar, Biomass & Others) | 33 | 75 | 187 | 1 | 0 | 296 |
| Total | 927 | 1299 | 816 | 525 | 53 | 3620 |

| Share of RES in total generation (%) | 3.53 | 5.77 | 22.96 | 0.20 | 0.06 | 8.18 |
|--|-------|------|-------|-------|-------|-------|
| Share of Non-fossil fuel (Hydro, Nuclear and | 40.88 | 9,59 | 27.72 | 14.72 | 43.79 | 25.19 |
| RES) in total generation (%) | 40.00 | 9.59 | 31.12 | 14./3 | 43.79 | 25.19 |

H. Diversity Factor
All India Demand Diversity Factor
1.012
Diversity factor = Sum of regional maximum demands / All India maximum demand

| Le | 765kV HVDC HVDC 100 kV 132 kV 132 kV 100 kV 1220 kV | Line Details ER (With NR) GAYA-VARANASI SASARAM-FATEHPUR GAYA-BALIA ALIPURDUAR-AGRA PUSAULI B/B PUSAULI-VARANASI PUSAULI-ALLAHABAD MUZAFFARPUR-GORAKHPUR PATNA-BALIA BIHARSHARIFF-BALIA MOTIHARI-GORAKHPUR BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI SONE NAGAR-RIHAND GARWAH-RIHAND KARMANASA-SAHUPURI KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH JHARSUGUDA-RAIGARH BUDHIPADAR-RAIGARH BUDHIPADAR-RORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | D/C S/C S/C S/C D/C D/C S/C S/C S/C S/C S/C D/C D/C D/C D/C S/C D/C D/C | Max Import (MW) 13 283 0 175 0 0 0 0 0 0 300 605 0 0 335 3 0 1128 612 880 319 81 147 | Max Export (MW) 431 0 431 0 414 300 378 282 163 711 1069 376 0 0 196 0 0 43 0 ER-NR | Import (MU) 0.0 3.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 | Export (MU) 6.4 0.0 8.4 7.6 9.1 0.0 12.1 20.5 6.4 0.0 0.0 0.0 0.0 74.3 | Import=(+ve) /Export =(-ve) for NET (MU) NET (MU) -6.4 3.7 -8.4 -7.6 -9.1 0.0 0.0 -12.1 -20.5 -6.4 4.4 0.1 -3.9 0.0 0.4 0.0 0.0 -65.7 |
|--|---|--|---|---|--|--|---|--|
| Le Import/Expor | Level Joort of 765kV HVDC HVDC 220 kV 322 kV 400 kV 400 kV 400 kV 400 kV 400 kV | ER (With NR) GAYA-VARANASI SASARAM-FATEHPUR GAYA-BALIA ALIPURDUAR-AGRA PUSAULI B/B PUSAULI-VARANASI PUSAULI-ALLAHABAD MUZAFFARPUR-GORAKHPUR PATNA-BALIA BIHARSHARIFF-BALIA MOTIHARI-GORAKHPUR BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI SONE NAGAR-RIHAND GARWAH-RIHAND KARMANASA-SAHUPURI KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH JHARSUGUDA-RAIGARH BUDHIPADAR-RAIGARH BUDHIPADAR-RORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | D/C S/C S/C S/C S/C D/C D/C S/C S/C D/C D/C D/C S/C D/C D/C | Import (MW) 13 283 0 175 0 0 0 0 0 0 0 300 605 0 0 35 3 0 1128 612 880 319 81 147 | 431 0 414 300 378 282 163 711 1069 376 0 0 196 0 0 ER-NR | 0.0 3.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 | (MU) 6.4 0.0 8.4 7.6 9.1 0.0 0.0 12.1 20.5 6.4 0.0 0.0 0.0 0.0 74.3 | (MU) -6.4 3.7 -8.4 -7.6 -9.1 0.0 0.0 -12.1 -20.5 -6.4 4.4 0.1 -3.9 0.0 0.4 0.0 0.0 -65.7 |
| 1 | 765kV HVDC HVDC HVDC HVDC HVDC HVDC HVDC HVD | GAYA-VARANASI SASARAM-FATEHPUR GAYA-BALIA ALIPURDUAR-AGRA PUSAULI B/B PUSAULI-VARANASI PUSAULI-ALLAHABAD MUZAFFARPUR-GORAKHPUR PATNA-BALIA BIHARSHARIFF-BALIA MOTHARI-GORAKHPUR BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI SONE NAGAR-RIHAND GARWAH-RIHAND KARMANASA-SAHUPURI KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH S/C NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-RAIGARH BUDHIPADAR-RAIGARH BUDHIPADAR-RORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | S/C S/C S/C S/C S/C S/C S/C S/C D/C D/C D/C S/C D/C D/C | 283 0 175 0 0 0 0 0 0 0 0 0 0 0 0 0 | 0 414 300 378 282 163 711 1069 376 0 0 196 0 43 0 ER-NR | 3.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 | 0.0 8.4 7.6 9.1 0.0 0.0 12.1 20.5 6.4 0.0 0.0 0.0 0.0 0.0 74.3 | 3.7 -8.4 -7.6 -9.1 -0.0 -0.0 -12.1 -20.5 -6.4 -4.4 -0.1 -3.9 -0.0 -0.4 -0.0 -65.7 -12.5 -10.0 -13.0 -6.6 -0.7 -2.6 |
| 2 765 3 4 HV 5 | HVDC 220 kV 332 kV 200 kV 400 kV 220 kV 400 kV 1400 kV 1400 kV 1400 kV | SASARAM-FATEHPUR GAYA-BALIA ALIPURDUAR-AGRA PUSAULI B/B PUSAULI-VARANASI PUSAULI-ALLAHABAD MUZAFFARPUR-GORAKHPUR PATNA-BALIA BIHARSHARIFF-BALIA MOTIHARI-GORAKHPUR BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI SONE NAGAR-RIHAND GARWAH-RIHAND KARMANASA-SAHUPURI KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH JHARSUGUDA-RAIGARH RANCHI-DHARAMJAIGARH JHARSUGUDA-RAIGARH BUDHIPADAR-RAIGARH BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | S/C S/C S/C S/C S/C S/C S/C S/C D/C D/C D/C S/C D/C D/C | 283 0 175 0 0 0 0 0 0 0 0 0 0 0 0 0 | 0 414 300 378 282 163 711 1069 376 0 0 196 0 43 0 ER-NR | 3.7 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 | 0.0 8.4 7.6 9.1 0.0 0.0 12.1 20.5 6.4 0.0 0.0 0.0 0.0 0.0 74.3 | 3.7 -8.4 -7.6 -9.1 -0.0 -0.0 -12.1 -20.5 -6.4 -4.4 -0.1 -3.9 -0.0 -0.4 -0.0 -65.7 -12.5 -10.0 -13.0 -6.6 -0.7 -2.6 |
| 3 | HVDC 220 kV 332 kV 200 kV 400 kV 220 kV 400 kV 1400 kV 1400 kV 1400 kV | GAYA-BALIA ALIPURDUAR-AGRA PUSAULI B/B PUSAULI-VARANASI PUSAULI-VARANASI PUSAULI-ALLAHABAD MUZAFFARPUR-GORAKHPUR PATNA-BALIA BIHARSHARIFF-BALIA MOTIHARI-GORAKHPUR BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI SONE NAGAR-RIHAND GARWAH-RIHAND KARMANASA-SAHUPURI KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH JHARSUGUDA-RAIGARH JHARSUGUDA-RAIGARH BUDHIPADAR-RAIGARH BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | S/C S/C S/C S/C S/C S/C D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C S/C S/C D/C D/C | 0 175 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 414 300 378 282 163 711 1069 376 0 0 196 0 43 0 ER-NR | 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 | 8.4 7.6 9.1 0.0 0.0 12.1 20.5 6.4 0.0 0.0 3.9 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 | -8.4 -7.6 -9.1 0.0 0.0 -12.1 -20.5 -6.4 4.4 0.1 -3.9 0.0 0.4 0.0 -65.7 |
| HV S S HV S S HV S S HV S S S S S S S S S | 220 kV 32 kV 32 kV 32 kV 400 kV 400 kV 400 kV | ALIPURDUAR-AGRA PUSAULI B/B PUSAULI-VARANASI PUSAULI-ALLAHABAD MUZAFFARPUR-GORAKHPUR PATNA-BALIA BIHARSHARIFF-BALIA MOTHARI-GORAKHPUR BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI SONE NAGAR-RIHAND GARWAH-RIHAND KARMANASA-SAHUPURI KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH JHARSUGUDA-RAIGARH BHARSUGUDA-RAIGARH BUDHIPADAR-RAIGARH BUDHIPADAR-RORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | | 175 0 0 0 0 0 0 0 300 605 0 0 335 3 0 1128 612 880 319 81 147 | 378 282 163 711 1069 376 0 0 196 0 43 0 ER-NR | 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 | 7.6 9.1 0.0 0.0 12.1 20.5 6.4 0.0 0.0 3.9 0.0 0.0 0.0 74.3 | -7.6 -9.1 0.0 0.0 -12.1 -20.5 -6.4 4.4 0.1 -3.9 0.0 0.0 -65.7 |
| S C C C C C C C C C | 220 kV 32 kV 32 kV 32 kV 400 kV 400 kV 400 kV | PUSAULI-VARANASI PUSAULI -ALLAHABAD MUZAFFARPUR-GORAKHPUR PATNA-BALIA BIHARSHARIFF-BALIA MOTIHARI-GORAKHPUR BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI SONE NAGAR-RIHAND GARWAH-RIHAND KARMANASA-SAHUPURI KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH S/C NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-RAIGARH RANCH-SIPAT BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | S/C S/C S/C D/C D/C D/C S/C D/C D/C | 0 0 0 0 300 605 0 0 0 35 3 3 0 | 282 163 711 1069 376 0 0 196 0 0 43 0 ER-NR 0 0 0 0 0 0 0 0 0 ER-WR | 0.0 0.0 0.0 0.0 0.0 0.0 4.4 0.1 0.0 0.0 0.4 0.0 0.0 8.6 12.5 10.0 13.0 6.6 0.7 2.6 | 0.0 0.0 12.1 20.5 6.4 0.0 0.0 3.9 0.0 0.0 0.0 74.3 | 0.0 0.0 -12.1 -20.5 -6.4 4.4 0.1 -3.9 0.0 0.4 0.0 -65.7 12.5 10.0 13.0 6.6 0.7 2.6 |
| T S O O O O O O O O O | 220 kV 220 kV 232 kV 265 kV 265 kV 266 kV 2765 kV 2770 kV | PUSAULI -ALLAHABAD MUZAFFARPUR-GORAKHPUR PATNA-BALIA BIHARSHARIFF-BALIA MOTIHARI-GORAKHPUR BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI SONE NAGAR-RIHAND GARWAH-RIHAND KARMANASA-SAHUPURI KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH S/C NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-RAIGARH RANCHI-SIPAT BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | S/C D/C D/C S/C D/C D/C | 0 0 0 0 300 605 0 0 35 3 0 1128 612 880 319 81 | 163 711 1069 376 0 0 196 0 43 0 ER-NR | 0.0 0.0 0.0 0.0 4.4 0.1 0.0 0.4 0.0 0.0 8.6 12.5 10.0 13.0 6.6 0.7 2.6 | 0.0 12.1 20.5 6.4 0.0 0.0 3.9 0.0 0.0 0.0 74.3 | 0.0 -12.1 -20.5 -6.4 4.4 0.1 -3.9 0.0 0.4 0.0 -65.7 12.5 10.0 13.0 6.6 0.7 2.6 |
| S 9 400 | 220 kV 220 kV 232 kV 265 kV 265 kV 266 kV 2765 kV 2765 kV 2765 kV 2760 kV 2760 kV 2760 kV | MUZAFFARPUR-GORAKHPUR PATNA-BALIA BIHARSHARIFF-BALIA MOTIHARI-GORAKHPUR BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI SONE NAGAR-RIHAND GARWAH-RIHAND KARMANASA-SAHUPURI KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH S/C NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-RAIGARH RANCHI-SIPAT BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | D/C Q/C D/C D/C D/C S/C S/C S/C S/C S/C S/C D/C D/C D/C D/C D/C D/C D/C D/C D/C D | 0 0 0 300 605 0 0 35 3 0 1128 612 880 319 81 147 | 711 1069 376 0 0 196 0 43 0 ER-NR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 ER-WR | 0.0 0.0 0.0 4.4 0.1 0.0 0.0 0.4 0.0 0.0 8.6 12.5 10.0 13.0 6.6 0.7 2.6 | 12.1 20.5 6.4 0.0 0.0 3.9 0.0 0.0 0.0 74.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 | -12.1 -20.5 -6.4 4.4 0.1 -3.9 0.0 0.4 0.0 -65.7 12.5 10.0 13.0 6.6 0.7 2.6 |
| 10 | 220 kV 220 kV 232 kV 265 kV 265 kV 266 kV 2765 kV 2765 kV 2765 kV 2760 kV 2760 kV 2760 kV | PATNA-BALIA BIHARSHARIFF-BALIA MOTIHARI-GORAKHPUR BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI SONE NAGAR-RIHAND GARWAH-RIHAND KARMANASA-SAHUPURI KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH S/C NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-RAIGARH BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | D/C D/C D/C S/C S/C S/C S/C S/C S/C S/C D/C D/C D/C D/C D/C D/C D/C D/C D/C D | 0 300 605 0 0 35 3 0 1128 612 880 319 81 147 | 376 0 0 196 0 0 43 0 ER-NR 0 0 0 0 0 0 0 0 0 0 0 ER-WR | 0.0 4.4 0.1 0.0 0.0 0.4 0.0 0.0 8.6 12.5 10.0 13.0 6.6 0.7 2.6 | 6.4 0.0 0.0 3.9 0.0 0.0 0.0 0.0 74.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 | -6.4 4.4 0.1 -3.9 0.0 0.4 0.0 -65.7 12.5 10.0 13.0 6.6 0.7 2.6 |
| 11 | 220 kV 220 kV 400 kV LINK LINK | MOTIHARI-GORAKHPUR BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI SONE NAGAR-RIHAND GARWAH-RIHAND KARMANASA-SAHUPURI KARMANASA-SAHUPURI KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH S/C NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-RAIGARH BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | D/C D/C S/C S/C S/C S/C S/C S/C S/C D/C D/C D/C D/C D/C D/C D/C D/C D/C D | 300 605 0 0 35 3 0 1128 612 880 319 81 147 | 0 0 196 0 0 43 0 ER-NR 0 0 0 0 0 0 0 ER-WR | 4.4 0.1 0.0 0.0 0.4 0.0 0.0 8.6 12.5 10.0 13.0 6.6 0.7 2.6 | 0.0 0.0 3.9 0.0 0.0 0.0 0.0 74.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 | 4.4 0.1 -3.9 0.0 0.4 0.0 0.0 -65.7 12.5 10.0 13.0 6.6 0.7 2.6 |
| 12 | 220 kV 220 kV 400 kV LINK LINK | BIHARSHARIFF-VARANASI PUSAULI-SAHUPURI SONE NAGAR-RIHAND GARWAH-RIHAND KARMANASA-SAHUPURI KARMANASA-SAHUPURI KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH S/C NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-RAIGARH BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | D/C S/C S/C S/C S/C S/C S/C S/C S/C D/C D/C D/C D/C D/C D/C D/C D/C D/C | 605 0 0 35 3 0 1128 612 880 319 81 147 | 0 196 0 0 43 0 ER-NR 0 0 0 0 0 22 0 ER-WR | 0.1 0.0 0.0 0.4 0.0 0.0 8.6 12.5 10.0 13.0 6.6 0.7 2.6 | 0.0 3.9 0.0 0.0 0.0 74.3 0.0 0.0 0.0 0.0 0.0 0.0 | 0.1 -3.9 0.0 0.4 0.0 0.0 -65.7 12.5 10.0 13.0 6.6 0.7 2.6 |
| 13 220 14 15 16 17 18 765 19 20 400 22 22 23 220 | 220 kV 220 kV 400 kV LINK LINK | PUSAULI-SAHUPURI SONE NAGAR-RIHAND GARWAH-RIHAND KARMANASA-SAHUPURI KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH S/C NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-RAIGARH RANCHI-SIPAT BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | S/C D/C D/C | 0 0 35 3 0 1128 612 880 319 81 147 | 196 0 0 43 0 ER-NR 0 0 0 0 0 0 0 0 ER-WR | 0.0 0.0 0.4 0.0 0.0 8.6 12.5 10.0 13.0 6.6 0.7 2.6 | 3.9 0.0 0.0 0.0 0.0 74.3 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0 | -3.9 0.0 0.4 0.0 0.0 -65.7 12.5 10.0 13.0 6.6 0.7 2.6 |
| 14 | 220 kV 220 kV 400 kV LINK LINK | SONE NAGAR-RIHAND GARWAH-RIHAND KARMANASA-SAHUPURI KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH S/C NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-RAIGARH RANCHI-SIPAT BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | S/C S/C S/C S/C S/C S/C S/C S/C S/C D/C D/C | 0 35 3 0 1128 612 880 319 81 147 | 0 0 43 0 ER-NR 0 0 0 0 0 22 0 ER-WR | 0.0 0.4 0.0 0.0 8.6 12.5 10.0 13.0 6.6 0.7 2.6 | 0.0 0.0 0.0 0.0 74.3 0.0 0.0 0.0 0.0 0.0 0.0 | 0.0 0.4 0.0 0.0 -65.7 12.5 10.0 13.0 6.6 0.7 2.6 |
| 15 132 132 132 132 132 132 132 132 132 132 132 132 132 133 134 135 136 137 138 136 137 138 136 137 138 139 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 141 142 143 140 | 00rt of 765 kV 400 kV 220 kV 00rt of 765 kV HVDC LINK | GARWAH-RIHAND KARMANASA-SAHUPURI KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH S/C NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-RAIGARH RANCHI-SIPAT BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | S/C S/C S/C S/C S/C S/C S/C D/C D/C | 35 3 0 1128 612 880 319 81 147 | 0 43 0 ER-NR 0 0 0 0 0 22 0 ER-WR | 0.4 0.0 0.0 8.6 12.5 10.0 13.0 6.6 0.7 2.6 | 0.0 0.0 0.0 74.3 0.0 0.0 0.0 0.0 0.0 0.0 | 0.4 0.0 0.0 -65.7 12.5 10.0 13.0 6.6 0.7 2.6 |
| Timport/Export | 00rt of 765 kV 400 kV 220 kV 00rt of 765 kV HVDC LINK | KARMANASA-CHANDAULI ER (With WR) JHARSUGUDA-DHARAMJAIGARH S/C NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-RAIGARH RANCHI-SIPAT BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | S/C D/C D/C D/C S/C D/C D/C | 0 1128 612 880 319 81 147 | 0 ER-NR 0 0 0 0 0 0 22 0 0 ER-WR | 0.0 8.6 12.5 10.0 13.0 6.6 0.7 2.6 | 0.0 74.3 0.0 0.0 0.0 0.0 0.0 0.0 | 0.0 -65.7 12.5 10.0 13.0 6.6 0.7 2.6 |
| Import/Expor 20 | 765 kV 100 kV 220 kV 220 kV 00rt of 765 kV HVDC LINK | ER (With WR) JHARSUGUDA-DHARAMJAIGARH S/C NEW RANCHI-DHARAMJAIGARH HARSUGUDA-RAIGARH RANCHI-SIPAT BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | D/C D/C Q/C D/C S/C D/C D/C S/C D/C | 1128 612 880 319 81 147 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 12.5 10.0 13.0 6.6 0.7 2.6 | 74.3 0.0 0.0 0.0 0.0 0.0 0.0 | 12.5 10.0 13.0 6.6 0.7 2.6 |
| 18 765 19 20 400 21 400 22 22 23 Import/Expor 24 765 25 HVI 27 400 28 220 Import/Expor 29 400 31 220 Import/Expor 33 HV 35 HV 35 36 37 38 765 37 40 41 42 43 400 | 765 kV 100 kV 220 kV 220 kV 00rt of 765 kV HVDC LINK | JHARSUGUDA-DHARAMJAIGARH S/C NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-RAIGARH RANCHI-SIPAT BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | D/C Q/C D/C S/C D/C D/C D/C | 612 880 319 81 147 | 0 0 0 0 22 0 ER-WR | 12.5 10.0 13.0 6.6 0.7 2.6 | 0.0 0.0 0.0 0.0 0.0 0.0 | 12.5 10.0 13.0 6.6 0.7 2.6 |
| 765 19 20 400 21 400 22 22 23 220 24 765 25 HVI 27 400 28 220 27 400 28 220 27 400 31 220 20 31 220 20 33 34 HV 35 36 37 38 36 37 38 36 37 38 36 37 38 36 37 38 40 41 42 43 400 41 42 43 400 41 42 43 400 41 42 43 400 41 42 43 400 40 40 40 40 40 4 | 220 kV 220 kV 265 kV 4VDC LINK | NEW RANCHI-DHARAMJAIGARH JHARSUGUDA-RAIGARH RANCHI-SIPAT BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | D/C Q/C D/C S/C D/C D/C D/C | 612 880 319 81 147 | 0 0 0 22 0 ER-WR | 10.0 13.0 6.6 0.7 2.6 | 0.0 0.0 0.0 0.0 0.0 | 10.0 13.0 6.6 0.7 2.6 |
| 19 20 400 21 22 23 220 220 23 220 | 220 kV 220 kV 265 kV 4VDC LINK | JHARSUGUDA-RAIGARH RANCHI-SIPAT BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | Q/C D/C S/C D/C D/C D/C | 880 319 81 147 | 0 0 22 0 ER-WR | 13.0 6.6 0.7 2.6 | 0.0 0.0 0.0 0.0 | 13.0 6.6 0.7 2.6 |
| 20 | 220 kV port of 765 kV HVDC LINK | JHARSUGUDA-RAIGARH RANCHI-SIPAT BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | D/C S/C D/C D/C D/C | 319 81 147 0.0 | 0 22 0 ER-WR | 6.6 0.7 2.6 | 0.0 0.0 0.0 | 6.6 0.7 2.6 |
| 21 22 23 23 220 23 220 23 220 23 220 24 765 25 HVI 26 LIP 27 400 28 220 28 220 Import/Expor 30 31 220 Import/Expor 32 HV Import/Expor 32 HV 35 36 37 38 36 37 38 40 41 42 43 400 | 220 kV port of 765 kV HVDC LINK | BUDHIPADAR-RAIGARH BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | S/C D/C D/C D/C | 81 147 0.0 | 22 0 ER-WR | 0.7 2.6 | 0.0 | 0.7 2.6 |
| 23 220 | oort of 765 kV HVDC LINK | BUDHIPADAR-KORBA ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | D/C D/C D/C | 0.0 | 0 ER-WR | 2.6 | 0.0 | 2.6 |
| Import/Expor 24 765 25 HV 26 LIP 27 400 28 220 20 30 31 220 20 20 32 HV 33 34 HV 35 36 37 38 36 37 38 39 40 41 42 43 400 41 42 43 400 | 765 kV HVDC LINK 100 kV | ER (With SR) ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | D/C D/C | 0.0 | ER-WR | | | |
| 24 765 25 HVI 26 LIP 27 400 28 220 Import/Expor 30 30 220 Import/Expor 32 HV Import/Expor 33 HV 35 36 37 765 39 40 41 42 40 43 | 765 kV HVDC LINK 100 kV | ANGUL-SRIKAKULAM JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | D/C | | 1235.8 | | | |
| 25 | IVDC LINK 100 kV | JEYPORE-GAZUWAKA B/B TALCHER-KOLAR BIPOLE | D/C | | | 0.0 | | T 40.4 |
| 26 LIP 27 400 28 220 Import/Expor 29 400 31 220 Import/Expor 32 HV Import/Expor 33 HV 35 HV 35 36 37 765 37 765 39 40 41 42 400 | LINK 100 kV | TALCHER-KOLAR BIPOLE | _ | 0.0 | 665.0 | 0.0 | 13.4 16.3 | -13.4 -16.3 |
| 27 400 28 220 | | | | 0.0 | 1974.7 | 0.0 | 35.3 | -35.3 |
| Import/Expor 30 | 220 kV | TALCHER-I/C | D/C | 1158.2 | 0.8 | 0.0 | 16.2 | -16.2 |
| 29 400 30 31 220 | | BALIMELA-UPPER-SILERRU | S/C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 29 400 30 31 220 | | ED (WAL MED) | | | ER-SR | 0.0 | 65.0 | -65.0 |
| 30 400 31 220 | | BINAGURI-BONGAIGAON | D/C | 0 | 540 | 0.0 | 7.6 | -8 |
| Import/Expor 32 | 400 kV | ALIPURDUAR-BONGAIGAON | D/C | 7 | 418 | 0.0 | 4.8 | -5 |
| 32 HV Import/Expor 33 34 HV 35 36 37 38 765 39 40 41 42 43 400 | 220 kV | ALIPURDUAR-SALAKATI | D/C | 0 | 140 | 0.0 | 1.9 | -2 |
| 32 HV Import/Expor 33 34 HV 35 36 37 38 765 39 40 41 42 43 400 | ort of | NER (With NR) | | | ER-NER | 0.0 | 14.3 | -14.3 |
| Import/Expor | | BISWANATH CHARIALI-AGRA | - | 0 | 700 | 0.0 | 17.1 | -17.1 |
| 33 HV 35 36 37 38 765 39 40 41 42 43 400 | | | | | NER-NR | 0.0 | 17.1 | -17.1 |
| 34 HV 35 36 37 38 765 39 40 41 42 43 400 | ort of | WR (With NR) | | | | | | |
| 35 36 37 38 39 40 41 42 43 400 | | CHAMPA-KURUKSHETRA | D/C | 0 | 2250 | 0.0 | 36.0 | -36.0 |
| 36 37 38 39 40 41 42 43 400 | HVDC | V'CHAL B/B | D/C | 200 | 200 | 1.6 0.0 | 1.3 | 0.4 |
| 37 38 39 40 41 42 43 400 | | APL -MHG GWALIOR-AGRA | D/C D/C | 0 | 1715 2792 | 0.0 | 29.6 53.9 | -29.6 -53.9 |
| 39 40 41 42 43 400 | | PHAGI-GWALIOR | D/C | 0 | 1834 | 0.0 | 23.2 | -23.2 |
| 40 41 42 43 400 | 765 kV | JABALPUR-ORAI | D/C | 0 | 1259 | 0.0 | 21.3 | -21.3 |
| 41 42 43 400 | | GWALIOR-ORAI | S/C | 0 | 1887 | 7.4 | 0.0 | 7.4 |
| 42 400 | | SATNA-ORAI | S/C | 348 | 0 | 0.0 | 43.7 | -43.7 |
| 43 | | ZERDA-KANKROLI ZERDA -BHINMAL | S/C S/C | 222 | 0 | 3.0 1.8 | 0.0 | 3.0 1.8 |
| | 400 kV | V'CHAL -RIHAND | S/C | 964 | 0 | 21.8 | 0.0 | 21.8 |
| 44 | | RAPP-SHUJALPUR | D/C | 0 | 414 | 0 | 4 | -4 |
| 45 | | BADOD-KOTA | S/C | 43 | 78 | 0.1 | 0.6 | -0.5 |
| 46 220 | 220 kV | BADOD-MORAK | S/C | 3 | 94 | 0.0 | 1.2 | -1.2 |
| 47 | | MEHGAON-AURAIYA | S/C | 6 | 48 | 0.0 | 0.5 | -0.5 |
| 48 49 132 | 132kV | MALANPUR-AURAIYA GWALIOR-SAWAI MADHOPUR | S/C S/C | 0 | 65 | 0.0 | 0.0 | -1.0 0.0 |
| | | | 3/C | U 0 | WR-NR | 35.7 | 215.8 | -180.1 |
| | | WR (With SR) BHADRAWATI B/B | _ | 0 | 800 | 0.0 | 19.3 | -19.3 |
| | LINK | BARSUR-L.SILERU | - | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 52 765 | 65 kV | SOLAPUR-RAICHUR | D/C | 411 | 1584 | 0.0 | 13.1 | -13.1 |
| 53 | ·- •• • | WARDHA-NIZAMABAD | D/C | 0 | 1925 | 0.0 | 22.0 | -22.0 |
| | | KOLHAPUR-KUDGI | D/C | 792 | 0 | 12.5 | 0.0 | 12.5 |
| 55 56 220 | 100 kV | KOLHAPUR-CHIKODI PONDA-AMBEWADI | D/C S/C | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 57 | | XELDEM-AMBEWADI | S/C | 109 | 0 | 2.1 | 0.0 | 2.1 |
| | | • | • | | WR-SR | 14.6 | 54.3 | -39.7 |
| | | | ANSNATI | ONAL EX | CHANGE | | | |
| 58 | | TRA | | - | <u> </u> | - | | 22.1 |
| 59 60 | | TRA BHUTAN NEPAL | | | | | | -5.1 -14.4 |