

# पावर सिस्टम ऑपरेशन कार्पोरेशन लिमिटेड

(पावरग्रिड की पूर्ण स्वामित्व प्राप्त सहायक कंपनी)

## उत्तरी क्षेत्रीय भार प्रेषण केंद्र

Power Supply Position in Northern Region for 27.07.2011  
Date of Reporting : 28.07.2011

### I. Regional Availability/Demand:

| Evening Peak (20:00 Hrs) MW |          |             |            | Off Peak (03:00 Hrs) MW |          |             |            | Day Energy (Net MU) |          |
|-----------------------------|----------|-------------|------------|-------------------------|----------|-------------|------------|---------------------|----------|
| Demand Met                  | Shortage | Requirement | Freq* (Hz) | Demand Met              | Shortage | Requirement | Freq* (Hz) | Demand Met          | Shortage |
| 37115                       | 1760     | 38875       | 49.68      | 35558                   | 1958     | 37516       | 49.77      | 854.8               | 38.27    |

\* Half hourly (two 15 minutes block—one block each before and after the designated time) average frequency

### II. A. State's Load Energy Details (At States periphery) in MUs:

| State        | State's Control Area Generation (Net MU) |              |                  |               | Drawal Schedule<br>(Net MU) | Actual Drawal<br>(Net MU) | UI<br>(Net MU) | Consumption<br>(Net MU) | Shortages *<br>(MU) |
|--------------|--|--------------|------------------|---------------|-----------------------------|---------------------------|----------------|-------------------------|---------------------|
|              | Thermal                                  | Hydro        | Renewable/others | Total         |                             |                           |                |                         |                     |
| Punjab       | 54.94                                    | 22.95        |                  | 77.89         | 107.21                      | 111.53                    | 4.32           | 189.42                  | 2.50                |
| Haryana      | 59.54                                    | 1.07         |                  | 60.61         | 71.97                       | 74.42                     | 2.46           | 135.03                  | 2.88                |
| Rajasthan    | 60.26                                    | 0.00         | 5.37             | 65.63         | 42.63                       | 64.16                     | 21.53          | 129.79                  | 5.80                |
| Delhi        | 26.84                                    |              |                  | 26.84         | 84.92                       | 66.57                     | -18.35         | 93.40                   | 0.01                |
| UP           | 72.17                                    | 14.60        | 1.20             | 87.97         | 131.43                      | 135.73                    | 4.30           | 223.70                  | 26.46               |
| Uttarakhand  |  | 21.89        |                  | 21.89         | 10.58                       | 6.49                      | -4.09          | 28.38                   | 0.14                |
| HP           |  | 24.12        |                  | 24.12         | -1.03                       | -1.30                     | -0.28          | 22.82                   | 0.00                |
| J & K        |  | 14.55        | 0.00             | 14.55         | 11.21                       | 12.15                     | 0.94           | 26.70                   | 0.00                |
| Chandigarh   |  |              |                  | 0.00          | 6.72                        | 5.58                      | -1.14          | 5.58                    | 0.48                |
| <b>Total</b> | <b>273.75</b>                            | <b>99.17</b> | <b>6.57</b>      | <b>379.49</b> | <b>465.65</b>               | <b>475.34</b>             | <b>9.68</b>    | <b>854.83</b>           | <b>38.27</b>        |

\* Shortage furnished by the respective constituent.

### II. B. State's Demand Met in MWs:

| State        | Evening Peak (20:00 Hrs) MW |             |            |                     | Off Peak (03:00 Hrs) MW |             |            |                     | Day Energy MU |
|--------------|-----------------------------|-------------|------------|---------------------|-------------------------|-------------|------------|---------------------|---------------|
|              | Demand Met                  | Shortage    | UI         | STOA/PX transaction | Demand Met              | Shortage    | UI         | STOA/PX transaction |               |
| Punjab       | 8169                        | 670         | 165        | 1997                | 8003                    | 245         | -72        | 2446                | 51.55         |
| Haryana      | 5899                        | 95          | 175        | 1155                | 5986                    | 25          | 593        | 1053                | 24.82         |
| Rajasthan    | 5248                        | 335         | 677        | -395                | 5114                    | 263         | 700        | 74                  | -3.54         |
| Delhi        | 4100                        | 0           | -585       | 351                 | 3546                    | 0           | -880       | 261                 | 10.52         |
| UP           | 10093                       | 660         | 577        | 1763                | 9841                    | 1425        | 711        | 1236                | 34.15         |
| Uttarakhand  | 1217                        | 0           | -157       | -151                | 1222                    | 0           | -118       | -151                | -3.62         |
| HP           | 826                         | 0           | -114       | -1712               | 868                     | 0           | -9         | -1202               | -33.04        |
| J&K          | 1304                        | 0           | 26         | -597                | 779                     | 0           | -147       | -597                | -14.57        |
| Chandigarh   | 259                         | 0           | -41        | 39                  | 199                     | 0           | -44        | 34                  | 1.18          |
| <b>Total</b> | <b>37115</b>                | <b>1760</b> | <b>723</b> | <b>2449</b>         | <b>35558</b>            | <b>1958</b> | <b>734</b> | <b>3153</b>         | <b>67.44</b>  |

\* STOA figures are at sellers boundary & PX figures are at regional boundary.

### III. Regional Entities :

| Entity                                  | Station/<br>Constituent | Inst. Capacity<br>(Effective) MW | Declared<br>Capacity(MW) | Peak MW<br>(Gross) | Off Peak MW<br>(Gross) | Energy<br>(Net MU) | Average<br>Sentout(MW) | Schedule<br>Net MU | UI<br>Net MU |
|---|-------------------------|----------------------------------|--------------------------|--------------------|------------------------|--------------------|------------------------|--------------------|--------------|
|   |                         |                                  |                          |                    |                        |                    |                        |                    |              |
| A. NTPC                                 | Singrauli STPS          | 2000                             | 1900                     | 2063               | 2054                   | 46.34              | 1931                   | 45.60              | 0.74         |
|   | Rihand I STPS           | 1000                             | 958                      | 1050               | 1047                   | 23.18              | 966                    | 23.00              | 0.18         |
|   | Rihand II STPS          | 1000                             | 965                      | 1037               | 1044                   | 23.37              | 974                    | 23.16              | 0.21         |
|   | Dadri I STPS            | 840                              | 800                      | 862                | 814                    | 18.78              | 782                    | 18.21              | 0.57         |
|   | Dadri II STPS           | 980                              | 960                      | 962                | 963                    | 23.02              | 959                    | 23.04              | -0.02        |
|   | Unchahar I TPS          | 440                              | 401                      | 439                | 440                    | 9.63               | 401                    | 9.62               | 0.01         |
|   | Unchahar II TPS         | 440                              | 397                      | 438                | 436                    | 9.57               | 399                    | 9.52               | 0.05         |
|   | Unchahar III TPS        | 210                              | 196                      | 217                | 217                    | 4.75               | 198                    | 4.70               | 0.05         |
|   | ISTPP (Jhajjar)         | 500                              | 416                      | 465                | 397                    | 9.00               | 375                    | 9.96               | -0.96        |
|   | Dadri GPS               | 830                              | 556                      | 572                | 573                    | 13.19              | 550                    | 13.12              | 0.06         |
|   | Anta GPS                | 419                              | 386                      | 382                | 388                    | 9.09               | 379                    | 9.03               | 0.06         |
|   | Auraiya GPS             | 663                              | 600                      | 620                | 621                    | 13.96              | 582                    | 13.82              | 0.14         |
|   | <b>Sub Total (A)</b>    | <b>9322</b>                      | <b>8534</b>              | <b>9107</b>        | <b>8993.62</b>         | <b>203.88</b>      | <b>8495</b>            | <b>202.78</b>      | <b>1.10</b>  |
|   | B. NPC                  | NAPS                             | 440                      | 178                | 224                    | 226                | 0.45                   | 19                 | 4.27         |
| RAPS- B                                 |                         | 440                              | 372                      | 418                | 416                    | 8.99               | 375                    | 8.93               | 0.06         |
| RAPS- C                                 |                         | 440                              | 420                      | 470                | 467                    | 10.08              | 420                    | 10.08              | 0.00         |
| <b>Sub Total (B)</b>                    |                         | <b>1320</b>                      | <b>970</b>               | <b>1112</b>        | <b>1109</b>            | <b>19.52</b>       | <b>813</b>             | <b>23.28</b>       | <b>-3.76</b> |
| C. NHPC                                 | Chamera I HPS           | 540                              | 534                      | 540                | 540                    | 12.94              | 539                    | 12.81              | 0.13         |
|   | Chamera II HPS          | 300                              | 297                      | 303                | 302                    | 7.25               | 302                    | 7.25               | 0.00         |
|   | Bairasuil HPS           | 180                              | 179                      | 179                | 179                    | 3.42               | 142                    | 3.05               | 0.37         |
|   | Salal-HPS               | 690                              | 631                      | 631                | 631                    | 15.12              | 630                    | 15.14              | -0.03        |
|   | Tanakpur-HPS            | 94                               | 94                       | 94                 | 95                     | 2.27               | 94                     | 2.23               | 0.03         |
|   | Uri-HPS                 | 480                              | 315                      | 360                | 268                    | 7.22               | 301                    | 7.00               | 0.22         |
|   | Dhauliganga-HPS         | 280                              | 277                      | 277                | 276                    | 6.68               | 278                    | 6.67               | 0.01         |
|   | Dulhasti-HPS            | 390                              | 387                      | 404                | 404                    | 9.34               | 389                    | 9.35               | -0.01        |
|   | Sewa-II HPS             | 120                              | 114                      | 119                | 126                    | 1.74               | 72                     | 1.66               | 0.08         |
|   | <b>Sub Total (C)</b>    | <b>3074</b>                      | <b>2827</b>              | <b>2907</b>        | <b>2821</b>            | <b>65.97</b>       | <b>2749</b>            | <b>65.16</b>       | <b>0.80</b>  |
| D.NJPC                                  | Nathpa Jhakri           | 1500                             | 733                      | 1618               | 0                      | 16.92              | 705                    | 17.17              | -0.25        |
|   | <b>Sub Total (D)</b>    | <b>1500</b>                      | <b>733</b>               | <b>1618</b>        | <b>0</b>               | <b>16.92</b>       | <b>705</b>             | <b>17.17</b>       | <b>-0.25</b> |
| E. THDC                                 | Tehri HPS               | 1000                             | 820                      | 818                | 806                    | 19.59              | 816                    | 19.40              | 0.19         |
|   | Koteshwar HPS           | 100                              | 0                        | 0                  | 0                      | 0.00               | 0                      | 0.00               | 0.00         |
|   | <b>Sub Total (E)</b>    | <b>1100</b>                      | <b>820</b>               | <b>818</b>         | <b>806</b>             | <b>19.59</b>       | <b>816</b>             | <b>19.40</b>       | <b>0.19</b>  |
| F. BBMB                                 | Bhakra HPS              | 1480                             | 972                      | 1076               | 968                    | 23.99              | 1000                   | 23.33              | 0.66         |
|   | Dehar HPS               | 990                              | 608                      | 660                | 610                    | 15.00              | 625                    | 14.60              | 0.40         |
|   | Pong HPS                | 396                              | 293                      | 366                | 246                    | 7.29               | 304                    | 7.02               | 0.27         |
|   | <b>Sub Total (F)</b>    | <b>2866</b>                      | <b>1873</b>              | <b>2102</b>        | <b>1824</b>            | <b>46.28</b>       | <b>1928</b>            | <b>44.95</b>       | <b>1.33</b>  |
| G. IPP(s)/JV(s)                         | ADHPL HPS(IPP)          | 192                              | 0                        | 191                | 190                    | 3.81               | 159                    | 3.69               | 0.12         |
|   | KWHEP HPS(IPP)          | 500                              | 0                        | 513                | 522                    | 12.45              | 519                    | 12.45              | 0.00         |
|   | <b>Sub Total (G)</b>    | <b>692</b>                       | <b>0</b>                 | <b>704</b>         | <b>712</b>             | <b>16.26</b>       | <b>678</b>             | <b>16.15</b>       | <b>0.11</b>  |
| <b>H. Total Regional Entities (A-G)</b> | <b>19875</b>            | <b>15757</b>                     | <b>18368</b>             | <b>16266</b>       | <b>388.41</b>          | <b>16184</b>       | <b>388.89</b>          | <b>-0.48</b>       |              |

| I. State Entities   | Station                         | Effective Installed Capacity (MW) | Peak MW      | Off Peak MW  | Energy(MU)    | Average(Sent out MW) |
|---|---------------------------------|-----------------------------------|--------------|--------------|---------------|----------------------|
| Punjab  | Guru Gobind Singh TPS (Ropar)   | 1260                              | 1260.00      | 1260.00      | 28.00         | 1166                 |
|   | Guru Nanak Dev TPS(Bhatinda)    | 440                               | 297.00       | 297.00       | 6.15          | 256                  |
|   | Guru Hargobind Singh TPS(L.mbt) | 920                               | 938.00       | 941.00       | 20.80         | 867                  |
|   | Thermal (Total)                 | 2620                              | 2495.00      | 2498.00      | 54.94         | 2289                 |
|   | Total Hydro                     | 1148                              | 1117.00      | 948.00       | 22.95         | 956                  |
|   | <b>Total Punjab</b>             | <b>3768</b>                       | <b>3612</b>  | <b>3446</b>  | <b>77.89</b>  | <b>3246</b>          |
| Haryana   | Panipat TPS                     | 1360                              | 1073.00      | 931.00       | 23.41         | 975                  |
|   | DCRTPP (Yamuna nagar)           | 600                               | 490.00       | 486.00       | 10.89         | 454                  |
|   | Faridabad GPS (NTPC)            | 432                               | 396.00       | 399.00       | 9.46          | 394                  |
|   | RGTPP (khedar) (IPP)            | 1200                              | 558.00       | 643.00       | 15.78         | 658                  |
|   | Magnum Diesel (IPP)             | 25                                | 0.00         | 0.00         | 0.00          | 0                    |
|   | Thermal (Total)                 | 3617                              | 2517.00      | 2459.00      | 59.54         | 2481                 |
|   | Total Hydro                     | 62                                | 42.00        | 43.00        | 1.07          | 45                   |
|   | <b>Total Haryana</b>            | <b>3679</b>                       | <b>2559</b>  | <b>2502</b>  | <b>60.61</b>  | <b>2525</b>          |
| Rajasthan   | kota TPS                        | 1240                              | 771.00       | 752.00       | 19.38         | 808                  |
|   | suratgarh TPS                   | 1500                              | 877.00       | 1013.00      | 21.69         | 904                  |
|   | Chabra TPS                      | 500                               | 228.00       | 224.00       | 5.23          | 218                  |
|   | Dholpur GPS                     | 330                               | 266.00       | 280.00       | 6.62          | 276                  |
|   | Ramgarh GPS                     | 113                               | 65.00        | 65.00        | 1.61          | 67                   |
|   | RAPS A (NPC)                    | 300                               | 172.00       | 174.00       | 4.27          | 178                  |
|   | Barsingar (NLC)                 | 250                               | 0.00         | 0.00         | 0.00          | 0                    |
|   | Giral LTTPS (IPP)               | 250                               | 84.00        | 75.00        | 1.47          | 61                   |
|   | Rajwest LTTPS (IPP)             | 135                               | 0.00         | 0.00         | 0.00          | 0                    |
|   | VSLP LTTPS (IPP)                | 135                               | 0.00         | 0.00         | 0.00          | 0                    |
|   | Thermal (Total)                 | 4753                              | 2463.00      | 2583.00      | 60.26         | 2511                 |
|   | Total Hydro                     | 550                               | 0.00         | 0.00         | 0.00          | 0                    |
|   | Wind power                      | 1294                              | 408.00       | 116.00       | 4.73          | 197                  |
|   | Biomass                         | 71                                | 26.00        | 26.00        | 0.63          | 26                   |
|   | Renewable/Others (Total)        | 1365                              | 434          | 142          | 5.37          | 224                  |
|   | <b>Total Rajasthan</b>          | <b>6668</b>                       | <b>2897</b>  | <b>2725</b>  | <b>65.63</b>  | <b>2735</b>          |
|   | UP                              | Anpara TPS                        | 1630         | 1376         | 1389          | 33.40                |
| Obra TPS  |                                 | 1442                              | 473          | 440          | 10.60         | 442                  |
| Paricha TPS   |                                 | 640                               | 357          | 363          | 8.60          | 358                  |
| Panki TPS   |                                 | 210                               | 59           | 63           | 1.40          | 58                   |
| Harduaganj TPS  |                                 | 375                               | 0            | 0            | 0.00          | 0                    |
| Tanda TPS (NTPC)  |                                 | 440                               | 200          | 200          | 4.92          | 205                  |
| Roza TPS (IPP)  |                                 | 600                               | 555          | 554          | 13.26         | 552                  |
| Thermal (Total)   |                                 | 5337                              | 3020         | 3009         | 72.17         | 3007                 |
| Vishnuparyag HPS (IPP)  |                                 | 400                               | 436          | 436          | 10.46         | 436                  |
| Other Hydro   |                                 | 527                               | 141          | 41           | 4.14          | 173                  |
| Cogeneration  |                                 | 951                               | 50           | 50           | 1.20          | 50                   |
| <b>Total UP</b>   |                                 | <b>7215</b>                       | <b>3647</b>  | <b>3536</b>  | <b>87.97</b>  | <b>3230</b>          |
| Uttarakhand   |                                 | Total Hydro                       | 1303         | 906          | 903           | 21.89                |
|   | <b>Total Uttarakhand</b>        | <b>1303</b>                       | <b>906</b>   | <b>903</b>   | <b>21.89</b>  | <b>912</b>           |
| Delhi   | Rajghat TPS                     | 135                               | 44           | 0            | 0.55          | 23                   |
|   | Delhi Gas Turbine               | 282                               | 143          | 145          | 3.78          | 158                  |
|   | Pragati Gas Turbine             | 330                               | 297          | 282          | 7.29          | 304                  |
|   | Rithala GPS                     | 108                               | 48           | 29           | 0.98          | 41                   |
|   | Bawana GPS                      | 440                               | 0            | 0            | 0.00          | 0                    |
|   | Badarpur TPS (NTPC)             | 705                               | 655          | 650          | 14.24         | 593                  |
|   | Thermal (Total)                 | 2000                              | 1187         | 1106         | 26.84         | 1118                 |
|   | <b>Total Delhi</b>              | <b>2000</b>                       | <b>1187</b>  | <b>1106</b>  | <b>26.84</b>  | <b>1118</b>          |
| HP  | Baspa HPS (IPP)                 | 330                               | 330          | 330          | 7.93          | 330                  |
|   | Malana HPS (IPP)                | 101                               | 105          | 105          | 2.53          | 106                  |
|   | Other Hydro                     | 571                               | 576          | 572          | 13.66         | 569                  |
|   | <b>Total HP</b>                 | <b>1002</b>                       | <b>1011</b>  | <b>1007</b>  | <b>24.12</b>  | <b>1005</b>          |
| J & K   | Baglihar HPS (IPP)              | 450                               | 438          | 437          | 10.50         | 438                  |
|   | Other Hydro                     | 323                               | 154          | 189          | 4.04          | 168                  |
|   | Gas/Diesel/Others               | 183                               | 0            | 0            | 0.00          | 0                    |
|   | <b>Total J &amp; K</b>          | <b>956</b>                        | <b>592</b>   | <b>626</b>   | <b>14.55</b>  | <b>606</b>           |
| <b>Total State Control Area Generation</b>                        |                                 | <b>26591</b>                      | <b>16411</b> | <b>15851</b> | <b>379.49</b> | <b>15376</b>         |
| <b>J. Net Inter Regional Exchange</b> [Import (+ve)/Export (-ve)] |                                 |                                   | <b>3759</b>  | <b>5294</b>  | <b>111.25</b> | <b>4636</b>          |
| <b>Total Regional Availability(Gross)</b>                         |                                 | <b>46466</b>                      | <b>38538</b> | <b>37411</b> | <b>879.16</b> | <b>36196</b>         |

#### IV. Total Hydro Generation:

|                             |              |              |             |               |              |
|-----------------------------|--------------|--------------|-------------|---------------|--------------|
| Regional Entities Hydro     | 9233         | 8149         | 6163        | 165.02        | 6876         |
| State Control Area Hydro    | 5365         | 3809         | 3568        | 88.72         | 3696         |
| <b>Total Regional Hydro</b> | <b>14597</b> | <b>11958</b> | <b>9731</b> | <b>253.73</b> | <b>10572</b> |

**V(A). Inter Regional Exchange [Import (+ve)/Export (-ve)] [Linkwise]**

| Element              | Peak(20:00 Hrs) | Off Peak(03:00 Hrs) | Maximum Interchange (MW) |        | Energy (MU)   |             | Net Energy MU |
|----------------------|-----------------|---------------------|--------------------------|--------|---------------|-------------|---------------|
|                      | MW              | MW                  | Import                   | Export | Import        | Export      |               |
| Vindhychal B/B       | 300             | 500                 | 500                      | 0      | 8.64          | 0.00        | 8.64          |
| Gwalior-Agra (D/C)   | 898             | 1205                | 1345                     | 0      | 25.85         | 0.00        | 25.85         |
| Zerda-Kankroli       | 92              | 312                 | 372                      | 6      | 4.53          | 0.00        | 4.53          |
| Zerda-Bhinmal        | 133             | 368                 | 435                      | 0      | 6.11          | 0.00        | 6.11          |
| Malanpur-Auraiya     | -97             | -10                 | 0                        | 97     | 0.00          | 0.73        | -0.73         |
| Badod-Kota/Morak     | 92              | 140                 | 191                      | 0      | 3.10          | 0.00        | 3.10          |
| <b>Sub Total WR</b>  | <b>1326</b>     | <b>2375</b>         |                          |        | <b>45.13</b>  | <b>0.73</b> | <b>44.40</b>  |
| Pusauli Bypass       | 41              | 160                 | 246                      | 0      | 2.40          | 0.00        | 2.40          |
| MZP- GKP (D/C)       | 1086            | 1290                | 1436                     | 0      | 30.77         | 0.00        | 30.77         |
| Patna-Balia(D/C)     | 584             | 689                 | 743                      | 0      | 15.56         | 0.00        | 15.56         |
| B'Sharif-Balia (D/C) | 536             | 678                 | 741                      | 0      | 14.72         | 0.00        | 14.72         |
| Pusauli-Sahupuri     | 222             | 134                 | 222                      | 0      | 4.20          | 0.00        | 4.20          |
| K'nasa-Sahupuri      | 0               | 0                   | 0                        | 0      | 0.00          | 0.00        | 0.00          |
| Son Ngr-Rihand       | -36             | -32                 | 0                        | 38     | 0.00          | 0.80        | -0.80         |
| Garhwa-Rihand        | 0               | 0                   | 0                        | 0      | 0.00          | 0.00        | 0.00          |
| <b>Sub Total ER</b>  | <b>2433</b>     | <b>2919</b>         |                          |        | <b>67.65</b>  | <b>0.80</b> | <b>66.85</b>  |
| <b>Total IR Exch</b> | <b>3759</b>     | <b>5294</b>         |                          |        | <b>112.78</b> | <b>1.53</b> | <b>111.25</b> |

**V(B). Inter Regional Schedule & Actual Exchanges [Import (+ve)/Export (-ve)] [Corridor wise]**

| ISGS/LT Schedule (MU) |        |       | Bilateral Schedule (MU) |            | Power Exchange Shdl (MU) |            | Wheeling (MU) |            |
|-----------------------|--------|-------|-------------------------|------------|--------------------------|------------|---------------|------------|
| ER                    | Bhutan | Total | Through ER              | Through WR | Through ER               | Through WR | Through ER    | Through WR |
| 28.50                 | 3.56   | 32.06 | 26.65                   | 30.40      | 0.65                     | 3.06       | 0.00          | 0.00       |

| Total IR Schedule (MU) |            |       | Total IR Actual (MU) |            |        | Net IR UI (MU) |            |       |
|------------------------|------------|-------|----------------------|------------|--------|----------------|------------|-------|
| Through ER             | Through WR | Total | Through ER           | Through WR | Total  | Through ER     | Through WR | Total |
| 59.37                  | 32.83      | 92.20 | 66.85                | 44.40      | 111.25 | 7.48           | 11.57      | 19.06 |

**VI. Frequency Profile <----- % of Time Frequency ----->**

| <48.80 | <49.0 | <49.20 | <49.50 | <49.7 | 49.5 - 50.2 | 49.7 - 50.2 | > 50.00 | > 50.2 |
|--------|-------|--------|--------|-------|-------------|-------------|---------|--------|
| 0.00   | 0.30  | 0.00   | 7.50   | 50.60 | 92.20       | 49.10       | 2.70    | 0.30   |

| <----- Frequency (Hz) -----> |       |         |      | Average Frequency Hz | Frequency Variation Index | Std. Dev. | Frequency in 15 Min Block |          |
|------------------------------|-------|---------|------|----------------------|---------------------------|-----------|---------------------------|----------|
| Maximum                      |       | Minimum |      |                      |                           |           | MAX (Hz)                  | MIN (Hz) |
| Freq                         | Time  | Freq    | Time |                      |                           |           |                           |          |
| 50.24                        | 18.03 | 49.21   | 9.27 | 49.71                | 1.09                      | 0.16      | 50.10                     | 49.51    |

**VII. Voltage profile**

| Station    | Voltage Level (kV) | Maximum     |       | Minimum      |       | Voltage (in % of Time) |         |         |         |
|------------|--------------------|-------------|-------|--------------|-------|------------------------|---------|---------|---------|
|            |                    | Voltage(KV) | Time  | Voltage (KV) | Time  | <380 kV                | <390 kV | >420 kV | >430 kV |
| Rihand     | 400                | 401         | 06:22 | 394          | 00:05 | 0.0                    | 0.0     | 0.0     | 0.0     |
| Gorakhpur  | 400                | 0           | 00:00 | 9999         | 00:00 | 0.0                    | 0.0     | 0.0     | 0.0     |
| Bareilly   | 400                | 414         | 08:00 | 386          | 00:06 | 0.0                    | 0.9     | 0.0     | 0.0     |
| Kanpur     | 400                | 411         | 09:00 | 387          | 00:05 | 0.0                    | 2.3     | 0.0     | 0.0     |
| Dadri      | 400                | 405         | 19:02 | 387          | 00:05 | 0.0                    | 1.0     | 0.0     | 0.0     |
| Ballabgarh | 400                | 410         | 19:01 | 388          | 00:05 | 0.0                    | 0.7     | 0.0     | 0.0     |
| Bawana     | 400                | 407         | 07:06 | 388          | 00:05 | 0.0                    | 0.8     | 0.0     | 0.0     |
| Bassi      | 400                | 420         | 18:01 | 396          | 00:05 | 0.0                    | 0.0     | 0.0     | 0.0     |
| Hissar     | 400                | 401         | 18:55 | 387          | 00:08 | 0.0                    | 1.0     | 0.0     | 0.0     |
| Moga       | 400                | 411         | 07:56 | 395          | 00:08 | 0.0                    | 0.0     | 0.0     | 0.0     |
| Abdullapur | 400                | 413         | 07:06 | 0            | 12:09 | 5.0                    | 5.0     | 0.0     | 0.0     |
| Nalagarh   | 400                | 417         | 05:45 | 397          | 15:08 | 0.0                    | 0.0     | 0.0     | 0.0     |
| Kishenpur  | 400                | 414         | 04:06 | 400          | 21:16 | 0.0                    | 0.0     | 0.0     | 0.0     |
| Wagoora    | 400                | 408         | 04:05 | 384          | 20:33 | 0.0                    | 10.5    | 0.0     | 0.0     |

**VIII. Reservoir Parameters:**

| Name of Reservoir | Parameters |          | Present Parameters |             | Last Year |             | Last day      |              |
|-------------------|------------|----------|--------------------|-------------|-----------|-------------|---------------|--------------|
|                   | FRL (m)    | MDDL (m) | Level (m)          | Energy (MU) | Level (m) | Energy (MU) | Inflow (m³/s) | Usage (m³/s) |
| Bhakra            | 513.59     | 445.62   | 496.82             | 971.87      | 487.45    | 652.97      | 1900.99       | 764.55       |
| Pong              | 426.72     | 384.05   | 414.27             | 644.91      | 399.11    | 197.21      | 846.28        | 444.69       |
| Tehri             | 829.79     | 740.04   | 780.90             | 333.10      | NA        | NA          | 588.35        | 535.00       |
| Koteshwar         | 612.50     | 598.50   | 605.00             | 2.46        | NA        | NA          | 525.00        | NA           |
| Chamera-I         | 760.00     | 748.75   | 756.88             | 12.80       | 754.97    | NA          | 423.44        | 350.84       |
| Rihand            | 268.22     | 252.98   | 258.47             | 168.50      | 255.09    | NA          | NA            | NA           |
| RPS               | 352.80     | 343.81   | 345.65             | NA          | NA        | NA          | NA            | NA           |
| Jawahar Sagar     | 298.70     | 295.78   | 297.03             | NA          | NA        | NA          | NA            | 67.90        |
| RSD               | 527.91     | 487.91   | 509.40             | NA          | 505.92    | NA          | 476.03        | 335.70       |

**IX. System Constraints:**

**X. Grid Disturbance / Any Other Significant Event:**

**XI. Weather Conditions For 27.07.2011 :**

1 : Cloudy weather in NR.

**XII. Synchronisation of new generating units :**

**XIII. Synchronisation of new 400 / 765 KV lines and energising of bus //substation :**

**XIV. Tripping of lines in pooling stations :**

**XV. Complete generation loss in a generating station :**

Report for : 27.07.2011

पारी प्रभारी अभियंता / SHIFT CHARGE ENGINEER