

# पॉवर सिस्टम ऑपरेशन कार्पोरेशन लिमिटेड

(पाररिग्ड की पूर्ण स्वामित्व प्राप्त सहायक कंपनी)

## उत्तरी क्षेत्रीय भार प्रेषण केंद्र

CIN: U40105DL2009GOI188682

Power Supply Position in Northern Region for 01.11.2016

Date of Reporting : 02.11.2016



### I. Regional Availability/Demand:

| Evening Peak (19:00 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 |
| 40306                       | 451      | 40758       | 50.10      | 30128                   | 329      | 30456       | 50.00      | 798.5               | 10.05    |

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

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

| State        | State's Control Area Generation (Net MU) |              |                     |               | Drawal Schedule (Net MU) | Actual Drawal (Net MU) | UI (Net MU)  | Consumption (Net MU) | Shortages * (MU) |
|--------------|------------------------------------------|--------------|---------------------|---------------|--------------------------|------------------------|--------------|----------------------|------------------|
|              | Thermal                                  | Hydro        | Renewable/others \$ | Total         |                          |                        |              |                      |                  |
| Punjab       | 37.45                                    | 9.05         | 0.13                | 46.63         | 49.23                    | 49.90                  | 0.67         | 96.52                | 0.00             |
| Haryana      | 33.56                                    | 0.62         | 0.00                | 34.18         | 65.46                    | 64.95                  | -0.50        | 99.14                | 0.00             |
| Rajasthan    | 108.36                                   | 4.04         | 8.67                | 121.07        | 63.48                    | 66.01                  | 2.53         | 187.08               | 0.00             |
| Delhi        | 9.10                                     |              | 0.00                | 9.10          | 51.03                    | 51.80                  | 0.76         | 60.90                | 0.01             |
| UP           | 161.81                                   | 11.35        | 0.00                | 173.16        | 91.45                    | 92.10                  | 0.65         | 265.27               | 1.06             |
| Uttarakhand  |                                          | 8.97         | 0.00                | 13.29         | 14.22                    | 14.88                  | 0.66         | 28.16                | 0.00             |
| HP           |                                          | 7.78         | 2.57                | 10.36         | 12.45                    | 12.11                  | -0.34        | 22.47                | 0.00             |
| J & K        |                                          | 8.80         | 0.00                | 8.80          | 31.41                    | 27.13                  | -4.28        | 35.94                | 8.98             |
| Chandigarh   |                                          |              |                     | 0.00          | 3.48                     | 3.08                   | -0.40        | 3.08                 | 0.00             |
| <b>Total</b> | <b>350.27</b>                            | <b>50.63</b> | <b>11.37</b>        | <b>416.58</b> | <b>382.20</b>            | <b>381.96</b>          | <b>-0.24</b> | <b>798.54</b>        | <b>10.05</b>     |

\* Shortage furnished by the respective constituent's Others include UP Co-generation and JK Diesel

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

| State        | Evening Peak (19:00 Hrs) MW |            |             |                     | Off Peak (03:00 Hrs) MW |            |            |                     | Maximum Demand Met (MW) and Time(Hrs) |               |
|--------------|-----------------------------|------------|-------------|---------------------|-------------------------|------------|------------|---------------------|---------------------------------------|---------------|
|              | Demand Met                  | Shortage   | UI          | STOA/PX transaction | Demand Met              | Shortage   | UI         | STOA/PX transaction |                                       | Shortage (MW) |
| Punjab       | 4618                        | 0          | -287        | -335                | 2952                    | 0          | 196        | -343                | 4618                                  | 19:00         |
| Haryana      | 5855                        | 0          | -300        | -102                | 2993                    | 0          | -57        | -399                | 5855                                  | 19:00         |
| Rajasthan    | 7890                        | 0          | -12         | 355                 | 7632                    | 0          | 240        | 300                 | 8646                                  | 9:00          |
| Delhi        | 3012                        | 0          | -72         | -207                | 2061                    | 0          | 113        | -423                | 3054                                  | 20:00         |
| UP           | 14424                       | 0          | 388         | 241                 | 11565                   | 0          | 86         | 93                  | 14424                                 | 19:00         |
| Uttarakhand  | 1489                        | 0          | -22         | 87                  | 973                     | 0          | 34         | 263                 | 1531                                  | 18:00         |
| HP           | 1040                        | 0          | 40          | -600                | 548                     | 0          | -7         | 100                 | 1096                                  | 10:00         |
| J&K          | 1806                        | 451        | -132        | 448                 | 1315                    | 329        | -126       | 342                 | 1806                                  | 19:00         |
| Chandigarh   | 172                         | 0          | -17         | -45                 | 88                      | 0          | -3         | -30                 | 172                                   | 19:00         |
| <b>Total</b> | <b>40306</b>                | <b>451</b> | <b>-414</b> | <b>-157</b>         | <b>30128</b>            | <b>329</b> | <b>477</b> | <b>-98</b>          | <b>40306</b>                          | <b>19:00</b>  |

\* STOA figures are at sellers boundary & PX figures are at regional boundary. # figures may not be at simultaneous hour.

### III. Regional Entities :

| 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            |              |
|-----------------------------------------|----------------------------------|--------------------------|--------------------|------------------------|--------------------|------------------------|--------------------|---------------|--------------|
|                                         |                                  |                          |                    |                        |                    |                        |                    | Net MU        | Net MU       |
| A. NTPC                                 | Singrauli STPS (5*200+2*500)     | 2000                     | 1833               | 1893                   | 1500               | 39.65                  | 1652               | 39.42         | 0.23         |
|                                         | Rihand I STPS (2*500)            | 1000                     | 943                | 923                    | 746                | 19.34                  | 806                | 19.20         | 0.14         |
|                                         | Rihand II STPS (2*500)           | 1000                     | 958                | 958                    | 722                | 19.64                  | 818                | 19.28         | 0.36         |
|                                         | Rihand III STPS (2*500)          | 1000                     | 958                | 1036                   | 752                | 19.82                  | 826                | 19.24         | 0.58         |
|                                         | Dadri I STPS (4*210)             | 840                      | 815                | 352                    | 314                | 7.26                   | 303                | 7.43          | -0.17        |
|                                         | Dadri II STPS (2*490)            | 980                      | 980                | 694                    | 655                | 16.05                  | 669                | 16.71         | -0.65        |
|                                         | Unchahar I TPS (2*210)           | 420                      | 355                | 273                    | 266                | 5.97                   | 249                | 6.08          | -0.11        |
|                                         | Unchahar II TPS (2*210)          | 420                      | 402                | 308                    | 304                | 6.49                   | 270                | 6.77          | -0.28        |
|                                         | Unchahar III TPS (1*210)         | 210                      | 201                | 151                    | 146                | 3.21                   | 134                | 3.40          | -0.18        |
|                                         | ISTPP (Jhajjar) (3*500)          | 1500                     | 1425               | 341                    | 299                | 6.93                   | 289                | 7.03          | -0.09        |
|                                         | Dadri GPS (4*130.19+2*154.51)    | 830                      | 789                | 374                    | 364                | 7.33                   | 305                | 7.63          | -0.30        |
|                                         | Anta GPS (3*88.71+1*153.2)       | 419                      | 388                | 0                      | 0                  | 0.00                   | 0                  | 0.00          | 0.00         |
|                                         | Auraiya GPS (4*111.19+2*109.30)  | 663                      | 624                | 0                      | 0                  | 0.00                   | 0                  | 0.00          | 0.00         |
|                                         | Dadri Solar(5)                   | 5                        | 1                  | 0                      | 0                  | 0.01                   | 1                  | 0.02          | 0.00         |
|                                         | Unchahar Solar(10)               | 10                       | 2                  | 0                      | 0                  | 0.04                   | 2                  | 0.04          | 0.00         |
|                                         | Singrauli Solar(15)              | 15                       | 2                  | 0                      | 0                  | 0.05                   | 2                  | 0.05          | 0.00         |
|                                         | KHEP(4*200)                      | 800                      | 860                | 862                    | 434                | 4.66                   | 194                | 4.25          | 0.41         |
|                                         | <b>Sub Total (A)</b>             | <b>12112</b>             | <b>11536</b>       | <b>8165</b>            | <b>6502</b>        | <b>156</b>             | <b>6519</b>        | <b>157</b>    | <b>-0.08</b> |
| B. NPC                                  | NAPS (2*220)                     | 440                      | 404                | 442                    | 450                | 9.73                   | 406                | 9.70          | 0.04         |
|                                         | RAPS- B (2*220)                  | 440                      | 387                | 427                    | 433                | 9.29                   | 387                | 9.29          | 0.00         |
|                                         | RAPS- C (2*220)                  | 440                      | 195                | 226                    | 219                | 4.61                   | 192                | 4.68          | -0.07        |
|                                         | <b>Sub Total (B)</b>             | <b>1320</b>              | <b>986</b>         | <b>1095</b>            | <b>1102</b>        | <b>23.64</b>           | <b>985</b>         | <b>23.66</b>  | <b>-0.03</b> |
| C. NHPC                                 | Chamera I HPS (3*180)            | 540                      | 540                | 500                    | 0                  | 2.73                   | 114                | 2.50          | 0.23         |
|                                         | Chamera II HPS (3*100)           | 300                      | 301                | 310                    | 0                  | 1.63                   | 68                 | 1.50          | 0.13         |
|                                         | Chamera III HPS (3*77)           | 231                      | 231                | 228                    | 0                  | 0.87                   | 36                 | 0.80          | 0.07         |
|                                         | Bairasuli HPS(3*60)              | 180                      | 179                | 183                    | 0                  | 0.61                   | 25                 | 0.59          | 0.03         |
|                                         | Salal-HPS (6*115)                | 690                      | 161                | 335                    | 180                | 4.78                   | 199                | 3.86          | 0.92         |
|                                         | Tanakpur-HPS (3*31.4)            | 94                       | 41                 | 50                     | 49                 | 1.17                   | 49                 | 0.99          | 0.18         |
|                                         | Uri-I HPS (4*120)                | 480                      | 79                 | 230                    | 28                 | 2.18                   | 91                 | 1.90          | 0.28         |
|                                         | Uri-II HPS (4*60)                | 240                      | 55                 | 41                     | 77                 | 1.40                   | 58                 | 1.33          | 0.06         |
|                                         | Dhauliganga-HPS (4*70)           | 280                      | 280                | 283                    | 0                  | 1.51                   | 63                 | 1.42          | 0.09         |
|                                         | Dulhasi-HPS (3*130)              | 390                      | 383                | 388                    | 0                  | 5.56                   | 232                | 5.40          | 0.16         |
|                                         | Sewa-II HPS (3*40)               | 120                      | 119                | 113                    | 0                  | 0.36                   | 15                 | 0.36          | 0.00         |
|                                         | Parbati 3 (4*130)                | 520                      | 260                | 263                    | 0                  | 0.82                   | 34                 | 0.78          | 0.04         |
|                                         | <b>Sub Total (C )</b>            | <b>4065</b>              | <b>2629</b>        | <b>2924</b>            | <b>334</b>         | <b>24</b>              | <b>984</b>         | <b>21</b>     | <b>2.19</b>  |
| D. SJVNL                                | NJPC (6*250)                     | 1500                     | 1605               | 1609                   | 0                  | 10.52                  | 438                | 10.50         | 0.02         |
|                                         | Rampur HEP (6*68.67)             | 412                      | 442                | 275                    | 0                  | 3.03                   | 126                | 2.93          | 0.11         |
|                                         | <b>Sub Total (D)</b>             | <b>1912</b>              | <b>2047</b>        | <b>1884</b>            | <b>0</b>           | <b>13.55</b>           | <b>565</b>         | <b>13.42</b>  | <b>0.13</b>  |
| E. THDC                                 | Tehri HPS (4*250)                | 1000                     | 1075               | 1055                   | 0                  | 7.77                   | 324                | 7.46          | 0.31         |
|                                         | Koteshwar HPS (4*100)            | 400                      | 91                 | 102                    | 90                 | 2.20                   | 92                 | 2.19          | 0.01         |
|                                         | <b>Sub Total (E)</b>             | <b>1400</b>              | <b>1166</b>        | <b>1157</b>            | <b>90</b>          | <b>9.97</b>            | <b>415</b>         | <b>9.65</b>   | <b>0.32</b>  |
| F. BBMB                                 | Bhakra HPS (2*108+3*126+5*157)   | 1379                     | 534                | 1050                   | 393                | 13.11                  | 546                | 12.81         | 0.29         |
|                                         | Dehar HPS (6*165)                | 990                      | 211                | 495                    | 145                | 5.17                   | 215                | 5.07          | 0.10         |
|                                         | Pong HPS (6*66)                  | 396                      | 234                | 330                    | 198                | 5.61                   | 234                | 5.62          | -0.01        |
|                                         | <b>Sub Total (F)</b>             | <b>2765</b>              | <b>979</b>         | <b>1875</b>            | <b>736</b>         | <b>23.88</b>           | <b>995</b>         | <b>23.51</b>  | <b>0.38</b>  |
| G. IPP(s)/JV(s)                         | ALLAIN DUHANGAN HPS(IPP) (2*96)  | 192                      | 0                  | 0                      | 0                  | 0.00                   | 0                  | 0.72          | -0.72        |
|                                         | KARCHAM WANGTOO HPS(IPP) (4*250) | 1000                     | 0                  | 825                    | 0                  | 5.75                   | 240                | 5.69          | 0.06         |
|                                         | Malana Stg-II HPS (2*50)         | 100                      | 0                  | 0                      | 0                  | 0.47                   | 20                 | 0.45          | 0.02         |
|                                         | Shree Cement TPS (2*150)         | 300                      | 0                  | -1                     | -1                 | -0.04                  | -1                 | 0.00          | -0.04        |
|                                         | Budhil HPS(IPP) (2*35)           | 70                       | 0                  | 38                     | 0                  | 0.30                   | 13                 | 0.30          | 0.00         |
|                                         | <b>Sub Total (G )</b>            | <b>1662</b>              | <b>0</b>           | <b>862</b>             | <b>-1</b>          | <b>6.49</b>            | <b>271</b>         | <b>7.16</b>   | <b>-0.67</b> |
| <b>H. Total Regional Entities (A-G)</b> |                                  | <b>25237</b>             | <b>19343</b>       | <b>17961</b>           | <b>8763</b>        | <b>257.61</b>          | <b>10734</b>       | <b>255.37</b> | <b>2.23</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) (6*210)             | 1260                              | 180         | 160         | 3.55          | 148                  |
|                   | Guru Nanak Dev TPS(Bhatinda) (2*110+2*120)        | 460                               | 0           | 0           | -0.02         | -1                   |
|                   | Guru Hargobind Singh TPS(L.mbt) (2*210+2*250)     | 920                               | 205         | 191         | 4.48          | 187                  |
|                   | Goindwal(GVK) (2*270)                             | 540                               | 0           | 0           | -0.02         | -1                   |
|                   | Rajpura (2*700)                                   | 1400                              | 720         | 660         | 22.01         | 917                  |
|                   | Talwandi Saboo (3*660)                            | 1980                              | 308         | 308         | 7.45          | 311                  |
|                   | <b>Thermal (Total)</b>                            | <b>6560</b>                       | <b>1413</b> | <b>1319</b> | <b>37.45</b>  | <b>1560</b>          |
|                   | Total Hydro                                       | 1000                              | 365         | 336         | 9.05          | 377                  |
|                   | Wind Power                                        | 0                                 | 0           | 0           | 0.00          | 0                    |
|                   | Biomass                                           | 288                               | 3           | 3           | 0.07          | 3                    |
|                   | Solar                                             | 560                               | 2           | 2           | 0.06          | 2                    |
|                   | <b>Renewable(Total)</b>                           | <b>848</b>                        | <b>5</b>    | <b>5</b>    | <b>0.13</b>   | <b>5</b>             |
|                   | <b>Total Punjab</b>                               | <b>8408</b>                       | <b>1783</b> | <b>1660</b> | <b>46.63</b>  | <b>1943</b>          |
| Haryana           | Panipat TPS (2*210+2*250)                         | 920                               | 208         | 200         | 4.89          | 204                  |
|                   | DCRTPP (Yamuna nagar) (2*300)                     | 600                               | 545         | 460         | 10.58         | 441                  |
|                   | Faridabad GPS (NTPC)(2*137.75+1*156)              | 432                               | 0           | 0           | 0.00          | 0                    |
|                   | RGTPP (khardar) (IPP) (2*600)                     | 1200                              | 1009        | 737         | 18.09         | 754                  |
|                   | Magnum Diesel (IPP)                               | 25                                | 0           | 0           | 0.00          | 0                    |
|                   | Jhajjar(CLP) (2*660)                              | 1320                              | 0           | 0           | 0.00          | 0                    |
|                   | <b>Thermal (Total)</b>                            | <b>4497</b>                       | <b>1762</b> | <b>1397</b> | <b>33.56</b>  | <b>1398</b>          |
|                   | Total Hydro                                       | 62                                | 12          | 35          | 0.62          | 26                   |
|                   | Wind Power                                        | 0                                 | 0           | 0           | 0.00          | 0                    |
|                   | Biomass                                           | 40                                | 0           | 0           | 0.00          | 0                    |
|                   | Solar                                             | 0                                 | 0           | 0           | 0.00          | 0                    |
|                   | <b>Renewable(Total)</b>                           | <b>40</b>                         | <b>0</b>    | <b>0</b>    | <b>0.00</b>   | <b>0</b>             |
|                   | <b>Total Haryana</b>                              | <b>4599</b>                       | <b>1774</b> | <b>1432</b> | <b>34.18</b>  | <b>1424</b>          |
| Rajasthan         | kota TPS (2*110+2*195+3*210)                      | 1240                              | 985         | 974         | 24.69         | 1029                 |
|                   | suratgarh TPS (6*250)                             | 1500                              | 765         | 766         | 18.54         | 772                  |
|                   | Chabra TPS (4*250)                                | 1000                              | 602         | 747         | 17.11         | 713                  |
|                   | Dholpur GPS (3*110)                               | 330                               | 0           | 0           | 0.00          | 0                    |
|                   | Ramgarh GPS(1*37.5 + 1*35.5 +2*37.5 +1*110 +1*50) | 271                               | 134         | 135         | 3.81          | 159                  |
|                   | RAPS A (NPC) (1*100+1*200)                        | 300                               | 0           | 0           | 0.00          | 0                    |
|                   | Barsingar (NLC) (2*125)                           | 250                               | 226         | 228         | 5.31          | 221                  |
|                   | Giral LTPS (2*125)                                | 250                               | 0           | 0           | 0.00          | 0                    |
|                   | Rajwest LTPS (IPP) (8*135)                        | 1080                              | 601         | 506         | 13.56         | 565                  |
|                   | VS LIGNITE LTPS (IPP) (1*135)                     | 135                               | 0           | 0           | 0.00          | 0                    |
|                   | Kalisindh Thermal(2*600)                          | 1200                              | 415         | 450         | 11.17         | 465                  |
|                   | Kawai(Adani) (2*660)                              | 1320                              | 610         | 604         | 14.17         | 590                  |
|                   | <b>Thermal (Total)</b>                            | <b>8876</b>                       | <b>4338</b> | <b>4410</b> | <b>108.36</b> | <b>4515</b>          |
|                   | Total Hydro                                       | 550                               | 190         | 148         | 4.04          | 169                  |
|                   | Wind power                                        | 4017                              | 127         | 521         | 5.55          | 231                  |
|                   | Biomass                                           | 99                                | 20          | 20          | 0.48          | 20                   |
|                   | Solar                                             | 1295                              | 0           | 0           | 2.63          | 110                  |
|                   | Renewable/Others (Total)                          | 5411                              | 147         | 541         | 8.67          | 361                  |
|                   | <b>Total Rajasthan</b>                            | <b>14837</b>                      | <b>4675</b> | <b>5099</b> | <b>121.07</b> | <b>5044</b>          |
| UP                | Anpara TPS (3*210+2*500)                          | 1630                              | 1229        | 1230        | 28.45         | 1185                 |
|                   | Obra TPS (2*50+2*94+5*200)                        | 1194                              | 261         | 259         | 6.30          | 263                  |
|                   | Paricha TPS (2*110+2*220+2*250)                   | 1160                              | 663         | 663         | 15.80         | 658                  |
|                   | Panki TPS (2*105)                                 | 210                               | 135         | 122         | 3.20          | 133                  |
|                   | Harduaganj TPS (1*60+1*105+2*250)                 | 665                               | 499         | 378         | 9.90          | 413                  |
|                   | Tanda TPS (NTPC) (4*110)                          | 440                               | 357         | 380         | 7.71          | 321                  |
|                   | Roza TPS (IPP) (4*300)                            | 1200                              | 1089        | 770         | 21.33         | 889                  |
|                   | Anpara-C (IPP) (2*600)                            | 1200                              | 1026        | 1004        | 20.88         | 870                  |
|                   | Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)             | 450                               | 282         | 283         | 6.57          | 274                  |
|                   | Anpara-D(2*500)                                   | 1000                              | 879         | 886         | 20.66         | 861                  |
|                   | Lalitpur TPS(3*660)                               | 1980                              | 856         | 716         | 18.61         | 776                  |
|                   | Bara(2*660)                                       | 1320                              | 535         | 533         | 0.00          | 0                    |
|                   | <b>Thermal (Total)</b>                            | <b>12449</b>                      | <b>7811</b> | <b>7224</b> | <b>159.41</b> | <b>6642</b>          |
|                   | Vishnuparyag HPS (IPP)(4*110)                     | 440                               | 147         | 142         | 6.57          | 274                  |
|                   | Alaknada(4*82.5)                                  | 330                               | 75          | 84          | 3.20          | 133                  |
|                   | Other Hydro                                       | 527                               | 50          | 50          | 1.59          | 66                   |
|                   | Cogeneration                                      | 981                               | 100         | 100         | 2.40          | 100                  |
|                   | Wind Power                                        | 0                                 | 0           | 0           | 0.00          | 0                    |
|                   | Biomass                                           | 26                                | 0           | 0           | 0.00          | 0                    |
|                   | Solar                                             | 102                               | 0           | 0           | 0.00          | 0                    |
|                   | <b>Renewable(Total)</b>                           | <b>128</b>                        | <b>0</b>    | <b>0</b>    | <b>0.00</b>   | <b>0</b>             |
|                   | <b>Total UP</b>                                   | <b>14855</b>                      | <b>8183</b> | <b>7600</b> | <b>173.16</b> | <b>7215</b>          |
| Uttarakhand       | Other Hydro                                       | 1250                              | 544         | 324         | 8.97          | 374                  |
|                   | Total Gas                                         | 225                               | 180         | 174         | 4.26          | 177                  |
|                   | Wind Power                                        | 0                                 | 0           | 0           | 0.00          | 0                    |
|                   | Biomass                                           | 127                               | 0           | 0           | 0.00          | 0                    |
|                   | Solar                                             | 20                                | 0           | 0           | 0.06          | 2                    |
|                   | Small Hydro (< 25 MW)                             | 180                               | 0           | 0           | 0.00          | 0                    |
|                   | <b>Renewable(Total)</b>                           | <b>327</b>                        | <b>0</b>    | <b>0</b>    | <b>0.06</b>   | <b>2</b>             |
|                   | <b>Total Uttarakhand</b>                          | <b>1802</b>                       | <b>724</b>  | <b>498</b>  | <b>13.29</b>  | <b>554</b>           |
| Delhi             | Rajghat TPS (2*67.5)                              | 135                               | 0           | 0           | 0.00          | 0                    |
|                   | Delhi Gas Turbine (6x30 + 3x34)                   | 282                               | 77          | 77          | 1.86          | 78                   |
|                   | Pragati Gas Turbine (2x104+ 1x122)                | 330                               | 152         | 157         | 3.77          | 157                  |
|                   | Rithala GPS (3*36)                                | 95                                | 0           | 0           | 0.00          | 0                    |
|                   | Bawana GPS (4*216+2*253)                          | 1370                              | -5          | -5          | -0.11         | -5                   |
|                   | Badarpur TPS (NTPC) (3*95+2*210)                  | 705                               | 168         | 162         | 3.58          | 149                  |
|                   | <b>Thermal (Total)</b>                            | <b>2917</b>                       | <b>392</b>  | <b>391</b>  | <b>9.10</b>   | <b>379</b>           |
|                   | Wind Power                                        | 0                                 | 0           | 0           | 0.00          | 0                    |
|                   | Biomass                                           | 16                                | 0           | 0           | 0.00          | 0                    |
|                   | Solar                                             | 2                                 | 0           | 0           | 0.00          | 0                    |
|                   | <b>Renewable(Total)</b>                           | <b>18</b>                         | <b>0</b>    | <b>0</b>    | <b>0.00</b>   | <b>0</b>             |
|                   | <b>Total Delhi</b>                                | <b>2935</b>                       | <b>392</b>  | <b>391</b>  | <b>9.10</b>   | <b>379</b>           |

|                                                            |                                                    |       |       |       |        |       |
|------------------------------------------------------------|----------------------------------------------------|-------|-------|-------|--------|-------|
| HP                                                         | Baspa HPS (IPP) (3*100)                            | 300   | 29    | 78    | 1.83   | 76    |
|                                                            | Malana HPS (IPP) (2*43)                            | 86    | 45    | 0     | 0.48   | 20    |
|                                                            | Other Hydro                                        | 372   | 213   | 217   | 5.47   | 228   |
|                                                            | Wind Power                                         | 0     | 0     | 0     | 0.00   | 0     |
|                                                            | Biomass                                            | 0     | 0     | 0     | 0.00   | 0     |
|                                                            | Solar                                              | 0     | 0     | 0     | 0.00   | 0     |
|                                                            | Small Hydro (< 25 MW)                              | 486   | 115   | 99    | 2.57   | 107   |
|                                                            | Renewable(Total)                                   | 486   | 115   | 99    | 2.57   | 107   |
|                                                            | Total HP                                           | 1244  | 402   | 394   | 10.36  | 432   |
|                                                            |                                                    |       |       |       |        |       |
| J & K                                                      | Baglihar HPS (IPP) (3*150+3*150)                   | 900   | 252   | 251   | 6.03   | 251   |
|                                                            | Other Hydro/IPP(including 98 MW Small Hydro)       | 308   | 138   | 93    | 2.77   | 115   |
|                                                            | Gas/Diesel/Others                                  | 190   | 0     | 0     | 0.00   | 0     |
|                                                            | Wind Power                                         | 0     | 0     | 0     | 0.00   | 0     |
|                                                            | Biomass                                            | 0     | 0     | 0     | 0.00   | 0     |
|                                                            | Solar                                              | 0     | 0     | 0     | 0.00   | 0     |
|                                                            | Small Hydro (< 25 MW)Included in Other Hydro Above | 98    | 0     | 0     | 0.00   | 0     |
|                                                            | Renewable(Total)                                   | 98    | 0     | 0     | 0.00   | 0     |
|                                                            | Total J & K                                        | 1398  | 390   | 344   | 9      | 367   |
|                                                            |                                                    |       |       |       |        |       |
| Total State Control Area Generation                        |                                                    | 50078 | 18323 | 17419 | 416.58 | 17358 |
| J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)] |                                                    |       | 5569  | 5988  | 143.86 | 5994  |
| Total Regional Availability(Gross)                         |                                                    | 75315 | 41853 | 32170 | 818.05 | 34085 |

|                             |  |       |       |      |        |      |
|-----------------------------|--|-------|-------|------|--------|------|
| IV. Total Hydro Generation: |  |       |       |      |        |      |
| Regional Entities Hydro     |  | 12234 | 9526  | 1594 | 81.90  | 3413 |
| State Control Area Hydro    |  | 7163  | 2355  | 2031 | 53.20  | 2396 |
| Total Regional Hydro        |  | 19397 | 11881 | 3625 | 135.11 | 5809 |

|                                |  |      |     |     |       |     |
|--------------------------------|--|------|-----|-----|-------|-----|
| V. Total Renewable Generation: |  |      |     |     |       |     |
| Regional Entities Renewable    |  | 30   | 0   | 0   | 0.11  | 4   |
| State Control Area Renewable   |  | 7356 | 267 | 646 | 11.42 | 476 |
| Total Regional Renewable       |  | 7386 | 267 | 646 | 11.53 | 480 |

| VI(A). Inter Regional Exchange [Import (+ve)/Export (-ve)] [Linkwise] |                 |                     |                          |        |             |        |               |
|-----------------------------------------------------------------------|-----------------|---------------------|--------------------------|--------|-------------|--------|---------------|
| Element                                                               | Peak(19:00 Hrs) | Off Peak(03:00 Hrs) | Maximum Interchange (MW) |        | Energy (MU) |        | Net Energy MU |
|                                                                       | MW              | MW                  | Import                   | Export | Import      | Export |               |
| Vindhyhall(HVDC B/B)                                                  | -500            | -500                | 0                        | 500    | 0.00        | 12.10  | -12.10        |
| 765 KV Gwalior-Agra (D/C)                                             | 2222            | 2130                | 2496                     | 0      | 46.80       | 0.00   | 46.80         |
| 400 KV Zerda-Kankroli                                                 | 213             | 31                  | 213                      | 0      | 2.56        | 0.00   | 2.56          |
| 400 KV Zerda-Bhinmal                                                  | 261             | 77                  | 299                      | -37    | 3.90        | 0.00   | 3.90          |
| 220 KV Auraiya-Malanpur                                               | -46             | -77                 | 0                        | 91     | 0.00        | 1.64   | -1.64         |
| 220 KV Badoh-Kota/Morak                                               | 15              | 10                  | 43                       | 65     | 0.00        | 0.28   | -0.28         |
| Mundra-Mohindergarh(HVDC Bipole)                                      | 601             | 998                 | 1004                     | 0.00   | 22.89       | 0.00   | 22.89         |
| 400 KV Vindhyachal - Rihand                                           | 0               | 0                   | 0                        | 0      | 0.00        | 0.00   | 0.00          |
| 765 kV Phagi-Gwalior (D/C)                                            | 1181            | 1125                | 704                      | 0      | 29.11       | 0.00   | 29.11         |
| Sub Total WR                                                          | 3947            | 3794                |                          |        | 105.25      | 14.02  | 91.23         |
| Pusauli Bypass/HVDC                                                   | -44             | -31                 | 300                      | 272    | 7.17        | 5.87   | 1.30          |
| 400 KV MZP- GKP (D/C)                                                 | 37              | 62                  | 192                      | -74    | 2.52        | 0.00   | 2.52          |
| 400 KV Patna-Balia(D/C) X 2                                           | 377             | 498                 | 536                      | 0      | 11.74       | 0.00   | 11.74         |
| 400 KV B'Sharif-Balia (D/C)                                           | -25             | 35                  | 93                       | 25     | 0.97        | 0.00   | 0.97          |
| 765 KV Gaya-Balia                                                     | 218             | 262                 | 308                      | 0      | 5.61        | 0.00   | 5.61          |
| 765 KV Gaya-Varanasi (D/C)                                            | 260             | 386                 | 465                      | 0      | 7.87        | 0.00   | 7.87          |
| 220 KV Pusauli-Sahupuri                                               | 212             | 172                 | 212                      | 0      | 4.06        | 0.00   | 4.06          |
| 132 KV K'nasa-Sahupuri                                                | -28             | -20                 | 0                        | 30     | 0.00        | 0.54   | -0.54         |
| 132 KV Son Ngr-Rihand                                                 | -44             | -37                 | 0                        | 46     | 0.00        | 0.97   | -0.97         |
| 132 KV Garhwa-Rihand                                                  | 0               | 0                   | 0                        | 0      | 0.00        | 0.00   | 0.00          |
| 765 KV Sasaram - Fatehpur                                             | -275            | -185                | 0                        | 312    | 0.00        | 3.89   | -3.89         |
| 400 KV Barh -GKP (D/C)                                                | 376             | 416                 | 460                      | 0      | 8.36        | 0.00   | 8.36          |
| 400 kV B'Sharif - Varanasi (D/C)                                      | -118            | -39                 | 13                       | 171    | 0.00        | 0.99   | -0.99         |
| Sub Total ER                                                          | 946             | 1519                |                          |        | 48.29       | 12.25  | 36.04         |
| +/- 800 KV BiswanathCharialli-Agra                                    | 676             | 675                 | 682                      | 0.00   | 16.59       | 0.00   | 16.59         |
| Sub Total NER                                                         | 676             | 675                 |                          |        | 16.59       | 0.00   | 16.59         |
| Total IR Exch                                                         | 5569            | 5988                |                          |        | 170.13      | 26.27  | 143.86        |

| VI(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 |
| 38.10                                                                                         | 2.25   | 40.35 | -0.95                   | -11.96     | 0.02                     | 8.66       | 0.00          | 0.00       |

| Total IR Schedule (MU) |                         |        | Total IR Actual (MU)      |            |        | Net IR UI (MU)             |            |       |
|------------------------|-------------------------|--------|---------------------------|------------|--------|----------------------------|------------|-------|
| Through ER             | Through WR Inclds Mndra | Total  | Through ER(including NER) | Through WR | Total  | Through ER (including NER) | Through WR | Total |
| 39.41                  | 99.58                   | 139.00 | 52.63                     | 91.23      | 143.86 | 13.22                      | -8.36      | 4.86  |

| VI(C). Inter National Exchange with Nepal [Import (+ve)/Export (-ve)] [Linkwise] |                 |                     |                          |        |             |        |               |
|----------------------------------------------------------------------------------|-----------------|---------------------|--------------------------|--------|-------------|--------|---------------|
| Element                                                                          | Peak(19:00 Hrs) | Off Peak(03:00 Hrs) | Maximum Interchange (MW) |        | Energy (MU) |        | Net Energy MU |
|                                                                                  | MW              | MW                  | Import                   | Export | Import      | Export |               |
| 132 KV Tanakpur - Mahendarnagar                                                  | -29             | 0                   | 0                        | 31     | 0           | 0      | -0.09         |

| VII. Frequency Profile <----- % of Time Frequency -----> |       |       |       |       |            |             |             |        |        |
|----------------------------------------------------------|-------|-------|-------|-------|------------|-------------|-------------|--------|--------|
| <49.2                                                    | <49.7 | <49.8 | <49.9 | <50.0 | 49.9-50.05 | 50.05-50.10 | 50.10-50.20 | >50.20 | >50.50 |
| 0.00                                                     | 0.00  | 0.00  | 3.16  | 52.37 | 79.05      | 15.16       | 2.70        | 0.00   | 0.00   |

| <----- Frequency (Hz) -----> |       |         |       | Average<br>Frequency | Frequency<br>Variation | Std. Dev. | Frequency in 15 Min Block |       | Freq Dev<br>Index (%<br>of Time) |
|------------------------------|-------|---------|-------|----------------------|------------------------|-----------|---------------------------|-------|----------------------------------|
| Maximum                      |       | Minimum |       |                      |                        |           | MAX                       | MIN   |                                  |
| Freq                         | Time  | Freq    | Time  | Hz                   | Index                  |           | (Hz)                      | (Hz)  |                                  |
| 50.20                        | 18.00 | 49.81   | 22.08 | 50.00                | 0.029                  | 0.054     | 50.16                     | 49.92 | 20.95                            |

VIII(A). Voltage profile 400 kV

| Station           | Voltage Level (kV) | Maximum     |       | Minimum      |       | Voltage (in % of Time) |         |         |         | Voltage Deviation |
|-------------------|--------------------|-------------|-------|--------------|-------|------------------------|---------|---------|---------|-------------------|
|                   |                    | Voltage(KV) | Time  | Voltage (KV) | Time  | <380 kV                | <390 kV | >420 kV | >430 kV |                   |
| Rihand            | 400                | 410         | 0:00  | 402          | 20:25 | 0.0                    | 0.0     | 0.0     | 0.0     | 0.0               |
| Gorakhpur         | 400                | 420         | 12:04 | 398          | 18:41 | 0.0                    | 0.0     | 0.0     | 0.0     | 0.0               |
| Bareilly(PG)400kV | 400                | 421         | 16:04 | 404          | 18:38 | 0.0                    | 0.0     | 0.2     | 0.0     | 0.2               |
| Kanpur            | 400                | 418         | 16:02 | 409          | 10:05 | 0.0                    | 0.0     | 0.0     | 0.0     | 0.0               |
| Dadri             | 400                | 426         | 1:58  | 410          | 18:36 | 0.0                    | 0.0     | 28.3    | 0.0     | 28.3              |
| Ballabgarh        | 400                | 433         | 2:02  | 416          | 18:40 | 0.0                    | 0.0     | 80.7    | 14.9    | 80.7              |
| Bawana            | 400                | 428         | 2:01  | 412          | 18:31 | 0.0                    | 0.0     | 49.0    | 0.0     | 49.0              |
| Bassi             | 400                | 421         | 16:02 | 399          | 7:33  | 0.0                    | 0.0     | 0.2     | 0.0     | 0.2               |
| Hissar            | 400                | 421         | 1:58  | 407          | 18:41 | 0.0                    | 0.0     | 1.4     | 0.0     | 1.4               |
| Moga              | 400                | 424         | 1:57  | 409          | 10:08 | 0.0                    | 0.0     | 20.8    | 0.0     | 20.8              |
| Abdullapur        | 400                | 426         | 1:57  | 410          | 18:30 | 0.0                    | 0.0     | 41.4    | 0.0     | 41.4              |
| Nalagarh          | 400                | 433         | 0:07  | 416          | 18:22 | 0.0                    | 0.0     | 75.0    | 1.4     | 75.0              |
| Kishenpur         | 400                | 424         | 2:52  | 397          | 18:10 | 0.0                    | 0.0     | 13.2    | 0.0     | 13.2              |
| Wagoora           | 400                | 396         | 13:05 | 366          | 18:07 | 20.6                   | 74.4    | 0.0     | 0.0     | 20.6              |
| Amritsar          | 400                | 431         | 1:58  | 411          | 10:08 | 0.0                    | 0.0     | 55.6    | 4.1     | 55.6              |
| Kashipur          | 400                | 0           | 0:00  | 0            | 0:00  | 0.0                    | 0.0     | 0.0     | 0.0     | 0.0               |
| Hamirpur          | 400                | 0           | 0:00  | 0            | 0:00  | 0.0                    | 0.0     | 0.0     | 0.0     | 0.0               |
| Rishikesh         | 400                | 416         | 2:01  | 399          | 18:29 | 0.0                    | 0.0     | 0.0     | 0.0     | 0.0               |

VIII(B). Voltage profile 765 kV

| Station         | Voltage Level (kV) | Maximum     |       | Minimum      |       | Voltage (in % of Time) |         |         |         | Voltage Deviation |
|-----------------|--------------------|-------------|-------|--------------|-------|------------------------|---------|---------|---------|-------------------|
|                 |                    | Voltage(KV) | Time  | Voltage (KV) | Time  | <728 kV                | <742 kV | >800 kV | >820 kV |                   |
| Fatehpur        | 765                | 776         | 16:03 | 750          | 18:41 | 0.0                    | 0.0     | 0.0     | 0.0     | 0.0               |
| Balia           | 765                | 787         | 12:03 | 763          | 18:39 | 0.0                    | 0.0     | 0.0     | 0.0     | 0.0               |
| Moga            | 765                | 802         | 2:01  | 779          | 18:37 | 0.0                    | 0.0     | 2.8     | 0.0     | 2.8               |
| Agra            | 765                | 791         | 16:02 | 766          | 22:11 | 0.0                    | 0.0     | 0.0     | 0.0     | 0.0               |
| Bhiwani         | 765                | 806         | 16:02 | 786          | 10:07 | 0.0                    | 0.0     | 32.1    | 0.0     | 32.1              |
| Unnao           | 765                | 771         | 16:04 | 746          | 18:39 | 0.0                    | 0.0     | 0.0     | 0.0     | 0.0               |
| Lucknow         | 765                | 800         | 16:05 | 771          | 18:41 | 0.0                    | 0.0     | 0.0     | 0.0     | 0.0               |
| Meerut          | 765                | 800         | 16:02 | 772          | 18:39 | 0.0                    | 0.0     | 0.0     | 0.0     | 0.0               |
| Jhatikara       | 765                | 801         | 17:00 | 781          | 18:39 | 0.0                    | 0.0     | 0.9     | 0.0     | 0.9               |
| Bareilly 765 kV | 765                | 795         | 16:04 | 764          | 18:40 | 0.0                    | 0.0     | 0.0     | 0.0     | 0.0               |
| Anta            | 765                | 796         | 16:04 | 777          | 22:28 | 0.0                    | 0.0     | 0.0     | 0.0     | 0.0               |
| Phagi           | 765                | 797         | 4:01  | 774          | 7:33  | 0.0                    | 0.0     | 0.0     | 0.0     | 0.0               |

Note : '0' in Max / Min Col -> Telemetry Outage

IX. 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   | 498.62             | 1041.47     | 509.33    | 1515.08     | 267.37        | 386.04       |
| Pong              | 426.72     | 384.05   | 414.53             | 656.23      | 418.48    | 821.34      | 56.97         | 345.86       |
| Tehri             | 829.79     | 740.04   | 822.80             | 1061.41     | 817.45    | 951.25      | 57.43         | 169.00       |
| Koteshwar         | 612.50     | 598.50   | 610.83             | 5.00        | 610.49    | 4.81        | 169.00        | 145.03       |
| Chamera-I         | 760.00     | 748.75   | 759.76             | 0.00        | 0.00      | 0.00        | 62.04         | 73.47        |
| Rihand            | 268.22     | 252.98   | 0.00               | 0.00        | 0.00      | 0.00        | 0.00          | 0.00         |
| RPS               | 352.80     | 343.81   | 0.00               | 0.00        | 0.00      | 0.00        | 0.00          | 0.00         |
| Jawahar Sagar     | 298.70     | 295.78   | 0.00               | 0.00        | 0.00      | 0.00        | 0.00          | 0.00         |
| RSD               | 527.91     | 487.91   | 513.04             | 4.05        | 511.02    | 4.30        | 77.57         | 208.91       |

\* NA: Not Available

X(A). Short-Term Open Access Details:

| State       | Off- Peak Hours (03:00 Hrs) |          |           | Peak Hours (19:00 Hrs) |          |           | Day Energy (MU) |                 |            |
|-------------|-----------------------------|----------|-----------|------------------------|----------|-----------|-----------------|-----------------|------------|
|             | Bilateral (MW)              | IEX (MW) | PXIL (MW) | Bilateral (MW)         | IEX (MW) | PXIL (MW) | Bilateral (MU)  | IEX / PXIL (MU) | Total (MU) |
| Punjab      | -343                        | 0        | 0         | -343                   | 8        | 0         | -10.85          | 2.79            | -8.06      |
| Delhi       | -132                        | -291     | 0         | -229                   | 22       | 0         | -6.44           | -1.20           | -7.64      |
| Haryana     | -571                        | 172      | 0         | -310                   | 208      | 0         | -9.33           | 4.73            | -4.59      |
| HP          | 197                         | -97      | 0         | 74                     | -673     | 0         | 4.31            | -4.90           | -0.59      |
| J&K         | 342                         | 0        | 0         | 448                    | 0        | 0         | 9.36            | 0.00            | 9.36       |
| CHD         | -30                         | 0        | 0         | -30                    | 0        | -15       | -0.36           | -0.03           | -0.39      |
| Rajasthan   | -7                          | 307      | 0         | -7                     | 363      | 0         | 4.45            | 8.24            | 12.69      |
| UP          | 93                          | 0        | 0         | -149                   | 389      | 0         | -7.74           | 1.11            | -6.63      |
| Uttarakhand | 148                         | 115      | 0         | 180                    | -93      | 0         | 3.31            | 1.63            | 4.94       |
| Total       | -304                        | 206      | 0         | -367                   | 224      | -15       | -13.29          | 12.37           | -0.92      |

X(B). Short-Term Open Access Details:

| State       | Bilateral (MW) |         | IEX (MW) |         | PXIL (MW) |         |
|-------------|----------------|---------|----------|---------|-----------|---------|
|             | Maximum        | Minimum | Maximum  | Minimum | Maximum   | Minimum |
| Punjab      | -343           | -604    | 406      | 0       | 0         | 0       |
| Delhi       | -113           | -418    | 204      | -425    | 0         | 0       |
| Haryana     | -275           | -611    | 228      | 22      | 0         | 0       |
| HP          | 247            | 74      | 12       | -854    | 0         | 0       |
| J&K         | 448            | 339     | 0        | 0       | 0         | 0       |
| CHD         | 0              | -30     | 0        | 0       | 10        | -30     |
| Rajasthan   | 455            | -7      | 365      | 305     | 0         | 0       |
| UP          | 134            | -811    | 489      | -100    | 0         | 0       |
| Uttarakhand | 180            | 44      | 274      | -191    | 0         | 0       |

**XI. System Reliability Indices(Violation of TTC and ATC):**

(i)%age of times N-1 Criteria was violated in the inter - regional corridors

|                     |              |
|---------------------|--------------|
| <b>WR</b>           | <b>0.00%</b> |
| <b>ER</b>           | <b>0.00%</b> |
| <b>Simultaneous</b> | <b>0.00%</b> |

(ii)%age of times ATC violated on the inter-regional corridors

|                     |              |
|---------------------|--------------|
| <b>WR</b>           | <b>0.00%</b> |
| <b>ER</b>           | <b>0.00%</b> |
| <b>Simultaneous</b> | <b>0.00%</b> |

(iii)%age of times Angular Difference on Important Buses was beyond permissible limits(40 deg.)

|                       |              |
|-----------------------|--------------|
| <b>Rihand - Dadri</b> | <b>0.00%</b> |
|-----------------------|--------------|

**XII. Zero Crossing Violations**

| State       | No. of violations(Maximum 8 in a day) | Maximum number of continuous blocks without sign change |
|-------------|---------------------------------------|---------------------------------------------------------|
| Punjab      | 2                                     | 17                                                      |
| Haryana     | 1                                     | 14                                                      |
| Rajasthan   | 2                                     | 20                                                      |
| Delhi       | 3                                     | 22                                                      |
| UP          | 2                                     | 14                                                      |
| Uttarakhand | 3                                     | 19                                                      |
| HP          | 2                                     | 29                                                      |
| J & K       | 5                                     | 26                                                      |
| Chandigarh  | 0                                     | 12                                                      |

**XIII. System Constraints:****XIV. Grid Disturbance / Any Other Significant Event:**
**XV. Weather Conditions For 01.11.2016 :**  
 Normal
**XVI. Synchronisation of new generating units :****XVII. Synchronisation of new 220 / 400 / 765 KV lines and energising of bus / substation :**

- 220 kV Bays (206, 207, 208) at 400kV Shahjahanpur first time charged at 11:55, 11:53, 11:52 hrs/01.11.2016 respectively.
- 400 kV Bays (410, 413, 414, 416, 417 & 418) at 400kV Shahjahanpur first time charged at 12:47, 17:49, 18:07, 17:55, 17:56 & 12:41 hrs hrs/01.11.2016 respectively.

**XVIII. Tripping of lines in pooling stations :****XIX. Complete generation loss in a generating station :**

Note: Data(regarding drawal,generation, shortage , inter-regional flows and reservoir levels)of the constituents filled in the report are as per last furnished data by the respective state/constituent to NRLDC.

Report for : 01.11.2016

पारी प्रभारी अभियंता / SHIFT CHARGE ENGINEER