

## LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

|               |                         |
|---------------|-------------------------|
| <b>Date:</b>  | <b>October 10, 2019</b> |
| <b>Hours:</b> | <b>19:00 Hours</b>      |

|             |             |                 |
|-------------|-------------|-----------------|
| <b>Date</b> | <b>Time</b> | <b>Load(MW)</b> |
| 27-Dec-18   | 18:18hrs    | 399.35MW        |

| Sl. No.      | Hydropower Plant | Unit   | MW            | Name of Feeders                                      | Load (MW)   | Sign | Remarks   |
|--------------|------------------|--|---------------|--|-------------|------|---|
| 1            | 1020MW THP       | Unit- I  | 164.56        | 400kV THP - Siliguri Fdr- I                          | 263.27      | +    | 400kV THP-SIL III and Unit II under shutdown            |
|              |                  | Unit- II   | 0.00          | 400kV THP - Siliguri Fdr- II                         | 263.28      | +    |   |
|              |                  | Unit- III  | 129.63        | 400kV THP - Siliguri Fdr- IV                         | 257.44      | +    |   |
|              |                  | Unit- IV   | 169.99        | 400kV THP - Malbase Fdr- III                         | 0.00        |      |   |
|              |                  | Unit- V  | 159.51        | 400kV Malbase - Siliguri                             | -42.19      | -    |   |
|              |                  | Unit- VI   | 169.52        | -  | -           | -    |   |
|              |                  | <b>Total</b>   | <b>793.21</b> | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>9.22</b> |      |   |
| 2            | 720MW MHP        | Unit-I   | 78.52         | 400kV MHP - Jigmeling Fdr - I                        | 133.10      | +    | Unit-III under Shutdown and Unit II tripped at 04:55hrs |
|              |                  | Unit-II  | 0.00          | 400kV MHP - Jigmeling Fdr - II                       | 132.40      | +    |   |
|              |                  | Unit-III   | 0.00          | 400kV MHP - Jigmeling Fdr - III                      | 0.00        |      |   |
|              |                  | Unit-IV  | 193.42        | 400kV MHP - Jigmeling Fdr - IV                       | 0.00        |      |   |
|              |                  | -  | -             | 200MVA, 400/132kV ICT                                | 0.00        |      |   |
|              |                  | -  | -             | (Local Load)   | 0.00        |      |   |
|              |                  | <b>Total</b>   | <b>271.94</b> | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>6.44</b> |      |   |
| 2            | 336MW CHP        | Unit- I  | 0.00          | 220kV CHP - Birpara Fdr- I                           | 77.90       | +    | Unit-I under Shutdown                                   |
|              |                  | Unit- II   | 91.72         | 220kV CHP - Birpara Fdr- II                          | 77.81       | +    |   |
|              |                  | Unit- III  | 91.46         | 220kV CHP - Malbase Fdr- III                         | 126.89      | +    |   |
|              |                  | Unit- IV   | 91.10         | 220kV CHP - Semtokha Fdr- IV                         | -24.29      | -    |   |
|              |                  | -  | -             | 220kV Malbase - Birpara Fdr.                         | 31.02       | +    |   |
|              |                  | -  | -             | 66kV CHP - Chumdo Fdr.                               | 5.68        | +    |   |
|              |                  | -  | -             | 66kV CHP - Gedu Fdr.                                 | 7.68        | +    |   |
|              |                  | -  | -             | 3x3MVA, 66/11kV TFR                                  | 1.41        | +    |   |
|              |                  | <b>Total</b>   | <b>274.28</b> | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>1.20</b> |      |   |
| 3            | 24MW BHP (U/S)   | Unit- I  | 11.80         | 220kV BHP - Semtokha Fdr.                            | 56.87       | +    |   |
|              |                  | Unit- II   | 11.80         | 66kV BHP - Lobeyasa Fdr.                             | 17.64       | +    |   |
|              |                  | <b>Total</b>   | <b>23.60</b>  | 220kV BHP - Tsirang Fdr.                             | -10.70      | -    |   |
|              | 40MW BHP (L/S)   | Unit- I  | 20.95         | 5MVA, 66/11kV TFR                                    | 0.82        | +    |   |
|              |                  | Unit- II   | 20.17         | 30MVA ICT, 220/66kV                                  |             |      |   |
| <b>Total</b> | <b>41.12</b>     | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>0.09</b>   |  |             |      |   |
| 4            | 126MW DHPC       | Unit-I   | 30.30         | 220kV DHPC - Tsirang Fdr.                            | 83.97       | +    |   |
|              |                  | Unit-II  | 54.14         | 220kV Jigmeling - Dagapela Fdr.                      |             |      |   |
|              |                  | -  | -             | 5MVA, 220/33kV TFR                                   |             |      |   |
|              |                  | <b>Total</b>   | <b>84.44</b>  | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>0.47</b> |      |   |
| 5            | 60MW KHP         | Unit- I  | 16.42         | 132kV KHP - Nangkhor Fdr- I                          | 56.01       | +    |   |
|              |                  | Unit-II  | 16.61         | 132kV KHP - Kilikhar Fdr- II                         | 8.75        | +    |   |
|              |                  | Unit- III  | 16.43         | 5MVA, 132/11kV TFR                                   | 0.50        | +    |   |
|              |                  | Unit- IV   | 16.39         | 132kV Gelephu - Salakati Fdr.                        | 33.06       | +    |   |
|              |                  | -  | -             | 132kV Motanga - Rangia Fdr.                          | 46.10       | +    |   |
|              |                  | -  | -             | 220kV Tsirang - Jigmeling                            | 70.06       | +    |   |
|              |                  | <b>Total</b>   | <b>65.85</b>  | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>0.59</b> |      |   |

**Note: Load summary on October 10, 2019 at 19:00hrs.**

| Sl. No | Region       | Total Generation (MW) | Total Load [Generation - Export (MW)] | Total Load [Feeder Summation (MW)] | Total Export/Import | Load Balance |
|--------|--------------|-----------------------|---------------------------------------|------------------------------------|---------------------|--------------|
| 1      | Western Grid | 1,216.65              | 218.06                                | 207.08                             | 928.53              | 10.98        |
| 2      | Eastern Grid | 337.79                | 63.19                                 | 56.16                              | 344.66              | 7.03         |
|        | <b>Total</b> | 1,554.44              | 281.25                                | 263.24                             | 1,273.19            | 18.01        |

**Note: Load Summary on October 10, 2018 at 19:00hrs**

| Sl. No | Region          | 19:00Hrs Load (MW) | Day Peak Load (MW) | Month Peak Load (MW) |
|--------|-----------------|--------------------|--------------------|----------------------|
| 1      | Western Grid    | 247.31             | 247.31             | 281.60               |
| 2      | Eastern Grid    | 54.25              | 59.64              | 62.24                |
|        | <b>National</b> | <b>301.56</b>      | <b>306.95</b>      | <b>343.84</b>        |

1. The Instantaneous load balance is calculated as (Total generation - (Total export-Import) - Total domestic load) do not tend towards zero. This could be due to the following reasons:

- i) Not all the meters are digital and nor are all the meter at all locations can be read at same time (say 9:00hrs) due to many meter to be read manually.
- ii) The clocks of all the locations are not synchronized.

2. This report is generated to give an idea of the generation & load flow for the system at a particular instant.

**LOAD-GENERATION BALANCE REPORT**

Maximum Load/Demand till Date

|               |                         |
|---------------|-------------------------|
| <b>Date:</b>  | <b>October 11, 2019</b> |
| <b>Hours:</b> | <b>09:00 Hours</b>      |

|             |             |                 |
|-------------|-------------|-----------------|
| <b>Date</b> | <b>Time</b> | <b>Load(MW)</b> |
| 27-Dec-18   | 18:18hrs    | 399.35MW        |

| Sl. No.      | Hydropower Plant | Unit   | MW            | Name of Feeders                                      | Load (MW)    | Sign | Remarks                           |
|--------------|------------------|--|---------------|--|--------------|------|-----------------------------------|
| 1            | 1020MW THP       | Unit- I  | 168.71        | 400kV THP - Siliguri Fdr- I                          | 267.89       | +    | 400kV THP-Malbase under shutdown. |
|              |                  | Unit- II   | 0.00          | 400kV THP - Siliguri Fdr- II                         | 263.47       | +    |                                   |
|              |                  | Unit- III  | 130.44        | 400kV THP - Siliguri Fdr- IV                         | 256.44       | +    |                                   |
|              |                  | Unit- IV   | 170.22        | 400kV THP - Malbase Fdr- III                         | 0.00         |      |                                   |
|              |                  | Unit- V  | 159.37        | 400kV Malbase - Siliguri                             | -11.93       | -    |                                   |
|              |                  | Unit- VI   | 170.11        | -  | -            | -    |                                   |
|              |                  | <b>Total</b>   | <b>798.85</b> | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>11.05</b> |      |                                   |
| 2            | 720MW MHP        | Unit-I   | 80.50         | 400kV MHP - Jigmeling Fdr - I                        | 233.64       | +    | Unit-II & III under breakdown.    |
|              |                  | Unit-II  | 194.41        | 400kV MHP - Jigmeling Fdr - II                       | 232.60       | +    |                                   |
|              |                  | Unit-III   | 0.00          | 400kV MHP - Jigmeling Fdr - III                      | 0.00         |      |                                   |
|              |                  | Unit-IV  | 193.19        | 400kV MHP - Jigmeling Fdr - IV                       | 0.00         |      |                                   |
|              |                  | -  | -             | 200MVA, 400/132kV ICT                                |              |      |                                   |
|              |                  | -  | -             | (Local Load)   |              |      |                                   |
|              |                  | <b>Total</b>   | <b>468.10</b> | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>1.86</b>  |      |                                   |
| 3            | 336MW CHP        | Unit- I  | 0.00          | 220kV CHP - Birpara Fdr- I                           | 77.11        | +    | Unit-I under breakdown.           |
|              |                  | Unit- II   | 91.22         | 220kV CHP - Birpara Fdr- II                          | 77.21        | +    |                                   |
|              |                  | Unit- III  | 91.53         | 220kV CHP - Malbase Fdr- III                         | 152.01       | +    |                                   |
|              |                  | Unit- IV   | 91.62         | 220kV CHP - Semtokha Fdr- IV                         | -44.03       | -    |                                   |
|              |                  | -  | -             | 220kV Malbase - Birpara Fdr.                         | 10.28        | +    |                                   |
|              |                  | -  | -             | 66kV CHP - Chumdo Fdr.                               | 2.14         | +    |                                   |
|              |                  | -  | -             | 66kV CHP - Gedu Fdr.                                 | 8.25         | +    |                                   |
|              |                  | <b>Total</b>   | <b>274.37</b> | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>0.81</b>  |      |                                   |
| 4            | 24MW BHP (U/S)   | Unit- I  | 11.80         | 220kV BHP - Semtokha Fdr.                            | 68.80        | +    |                                   |
|              |                  | Unit- II   | 11.80         | 66kV BHP - Lobeyasa Fdr.                             | 17.14        | +    |                                   |
|              |                  | <b>Total</b>   | <b>23.60</b>  | 220kV BHP - Tsirang Fdr.                             | -21.42       | -    |                                   |
|              | 40MW BHP (L/S)   | Unit- I  | 20.97         | 5MVA, 66/11kV TFR                                    | 0.37         | +    |                                   |
|              |                  | Unit- II   | 20.18         | 30MVA ICT, 220/66kV                                  |              |      |                                   |
| <b>Total</b> | <b>41.15</b>     | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>-0.14</b>  |  |              |      |                                   |
| 5            | 126MW DHPC       | Unit-I   | 30.81         | 220kV DHPC - Tsirang Fdr.                            | 80.37        | +    |                                   |
|              |                  | Unit-II  | 50.10         | 220kV Jigmeling - Dagapela Fdr.                      |              |      |                                   |
|              |                  | -  | -             | 5MVA, 220/33kV TFR                                   |              |      |                                   |
|              |                  | <b>Total</b>   | <b>80.91</b>  | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>0.54</b>  |      |                                   |
| 6            | 60MW KHP         | Unit- I  | 16.38         | 132kV KHP - Nangkhor Fdr- I                          | 60.48        | +    |                                   |
|              |                  | Unit-II  | 16.34         | 132kV KHP - Kilikhar Fdr- II                         | 4.20         | +    |                                   |
|              |                  | Unit- III  | 16.46         | 5MVA, 132/11kV TFR                                   | 0.20         | +    |                                   |
|              |                  | Unit- IV   | 16.43         | 132kV Gelephu - Salakati Fdr.                        | 39.43        | +    |                                   |
|              |                  | -  | -             | 132kV Motanga - Rangia Fdr.                          | 38.50        | +    |                                   |
|              |                  | -  | -             | 220kV Tsirang - Jigmeling                            | 56.65        | +    |                                   |
|              |                  | <b>Total</b>   | <b>65.61</b>  | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>0.73</b>  |      |                                   |

**Note: Load summary on October 11, 2019 at 09:00hrs.**

| Sl. No | Region       | Total Generation (MW) | Total Load [Generation - Export (MW)] | Total Load [Feeder Summation (MW)] | Total Export/Import | Load Balance |
|--------|--------------|-----------------------|---------------------------------------|------------------------------------|---------------------|--------------|
| 1      | Western Grid | 1,218.88              | 221.76                                | 209.50                             | 940.47              | 12.26        |
| 2      | Eastern Grid | 533.71                | 46.19                                 | 43.60                              | 544.17              | 2.59         |
|        | <b>Total</b> | <b>1,752.59</b>       | <b>267.95</b>                         | <b>253.10</b>                      | <b>1,484.64</b>     | <b>14.85</b> |

**Note: Load Summary on October 11, 2018 at 09:00hrs**

| Sl. No | Region          | 09:00Hrs Load (MW) | Day Peak Load (MW) | Month Peak Load (MW) |
|--------|-----------------|--------------------|--------------------|----------------------|
| 1      | Western Grid    | 219.24             | 239.20             | 281.60               |
| 2      | Eastern Grid    | 40.85              | 56.15              | 62.24                |
|        | <b>National</b> | <b>260.09</b>      | <b>295.35</b>      | <b>343.84</b>        |

**NOTES:**

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  - Not all the meters are digital and nor are all the meter at all locations can be read at same time (say 9:00hrs) due to many meter to be read manually.
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