

## LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

|               |                           |
|---------------|---------------------------|
| <b>Date:</b>  | <b>September 24, 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  | 186.00          | 400kV THP - Siliguri Fdr- I                          | 260.00      | +    |  |
|              |                  | Unit- II   | 185.00          | 400kV THP - Siliguri Fdr- II                         | 259.00      | +    |  |
|              |                  | Unit- III  | 184.00          | 400kV THP - Siliguri Fdr- IV                         | 249.00      | +    |  |
|              |                  | Unit- IV   | 185.00          | 400kV THP - Malbase Fdr- III                         | 335.00      | +    |  |
|              |                  | Unit- V  | 186.00          | 400kV Malbase - Siliguri                             | 223.00      | +    |  |
|              |                  | Unit- VI   | 185.00          | -  | -           | -    |  |
|              |                  | <b>Total</b>   | <b>1,111.00</b> | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>8.00</b> |      |  |
| 2            | 720MW MHP        | Unit-I   | 0.00            | 400kV MHP - Jigmeling Fdr - I                        | 283.50      | +    | Unit I under break down                          |
|              |                  | Unit-II  | 191.60          | 400kV MHP - Jigmeling Fdr - II                       | 285.70      | +    |  |
|              |                  | Unit-III   | 185.20          | 400kV MHP - Jigmeling Fdr - III                      | 0.00        |      |  |
|              |                  | Unit-IV  | 194.50          | 400kV MHP - Jigmeling Fdr - IV                       | 0.00        |      |  |
|              |                  | -  | -               | 200MVA, 400/132kV ICT                                | 0.00        |      |  |
|              |                  | -  | -               | (Local Load)   | 0.00        |      |  |
|              |                  | <b>Total</b>   | <b>571.30</b>   | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>2.10</b> |      |  |
| 2            | 336MW CHP        | Unit- I  | 0.00            | 220kV CHP - Birpara Fdr- I                           | 90.30       | +    | Unit-I under breakdown                           |
|              |                  | Unit- II   | 92.00           | 220kV CHP - Birpara Fdr- II                          | 90.10       | +    |  |
|              |                  | Unit- III  | 92.00           | 220kV CHP - Malbase Fdr- III                         | 130.90      | +    |  |
|              |                  | Unit- IV   | 92.00           | 220kV CHP - Semtokha Fdr- IV                         | -49.50      | -    |  |
|              |                  | -  | -               | 220kV Malbase - Birpara Fdr.                         | 45.00       | +    |  |
|              |                  | -  | -               | 66kV CHP - Chumdo Fdr.                               | 3.60        | +    |  |
|              |                  | -  | -               | 66kV CHP - Gedu Fdr.                                 | 7.60        | +    |  |
|              |                  | -  | -               | 3x3MVA, 66/11kV TFR                                  | 1.27        | +    |  |
|              |                  | <b>Total</b>   | <b>276.00</b>   | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>1.73</b> |      |  |
| 3            | 24MW BHP (U/S)   | Unit- I  | 12.30           | 220kV BHP - Semtokha Fdr.                            | 73.36       | +    |  |
|              |                  | Unit- II   | 12.20           | 66kV BHP - Lobeyasa Fdr.                             | 18.17       | +    |  |
|              |                  | <b>Total</b>   | <b>24.50</b>    | 220kV BHP - Tsirang Fdr.                             | -26.27      | -    |  |
|              | 40MW BHP (L/S)   | Unit- I  | 20.60           | 5MVA, 66/11kV TFR                                    | 0.91        | +    |  |
|              |                  | Unit- II   | 21.00           | 30MVA ICT, 220/66kV                                  |             |      |  |
| <b>Total</b> | <b>41.60</b>     | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>0.07</b>     |  |             |      |  |
| 4            | 126MW DHPC       | Unit-I   | 60.33           | 220kV DHPC - Tsirang Fdr.                            | 119.84      | +    |  |
|              |                  | Unit-II  | 60.10           | 220kV Jigmeling - Dagapela Fdr.                      |             |      |  |
|              |                  | -  | -               | 5MVA, 220/33kV TFR                                   |             |      |  |
|              |                  | <b>Total</b>   | <b>120.43</b>   | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>0.59</b> |      |  |
| 5            | 60MW KHP         | Unit- I  | 16.50           | 132kV KHP - Nangkor Fdr- I                           | 57.54       | +    | Motanga Substation is bypassed through ERS tower |
|              |                  | Unit-II  | 16.50           | 132kV KHP - Kilikhar Fdr- II                         | 7.70        | +    |  |
|              |                  | Unit- III  | 16.50           | 5MVA, 132/11kV TFR                                   | 0.55        | +    |  |
|              |                  | Unit- IV   | 16.50           | 132kV Gelephu - Salakati Fdr.                        | 39.98       | +    |  |
|              |                  | -  | -               | 132kV Motanga - Rangia Fdr.                          | 46.71       | +    |  |
|              |                  | -  | -               | 220kV Tsirang - Jigmeling                            | 79.88       | +    |  |
|              |                  | <b>Total</b>   | <b>66.00</b>    | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>0.21</b> |      |  |

**Note: Load summary on September 24, 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 | 1,573.53              | 277.25                                | 267.00                             | 1,216.40            | 10.25        |
| 2      | Eastern Grid | 637.30                | 61.29                                 | 58.98                              | 655.89              | 2.31         |
|        | <b>Total</b> | <b>2,210.83</b>       | <b>338.54</b>                         | <b>325.98</b>                      | <b>1,872.29</b>     | <b>12.56</b> |

**Note: Load Summary on September 24, 2018 at 19:00hrs**

| Sl. No | Region          | 19:00Hrs Load (MW) | Day Peak Load (MW) | Month Peak Load (MW) |
|--------|-----------------|--------------------|--------------------|----------------------|
| 1      | Western Grid    | 256.15             | 256.15             | 256.15               |
| 2      | Eastern Grid    | 49.56              | 49.56              | 57.74                |
|        | <b>National</b> | <b>305.71</b>      | <b>305.71</b>      | <b>313.89</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>September 25, 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  | 187.00          | 400kV THP - Siliguri Fdr- I                          | 268.00      | +    |   |
|              |                  | Unit- II   | 186.00          | 400kV THP - Siliguri Fdr- II                         | 266.00      | +    |   |
|              |                  | Unit- III  | 187.00          | 400kV THP - Siliguri Fdr- IV                         | 315.00      | +    |   |
|              |                  | Unit- IV   | 185.00          | 400kV THP - Malbase Fdr- III                         | 258.00      | +    |   |
|              |                  | Unit- V  | 186.00          | 400kV Malbase - Siliguri                             | 237.00      | +    |   |
|              |                  | Unit- VI   | 185.00          | -  | -           | -    |   |
|              |                  | <b>Total</b>   | <b>1,116.00</b> | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>9.00</b> |      |   |
| 2            | 720MW MHP        | Unit-I   | 0.00            | 400kV MHP - Jigmeling Fdr - I                        | 280.70      | +    | Unit-I under breakdown.                           |
|              |                  | Unit-II  | 190.00          | 400kV MHP - Jigmeling Fdr - II                       | 282.20      | +    |   |
|              |                  | Unit-III   | 185.00          | 400kV MHP - Jigmeling Fdr - III                      | 0.00        |      |   |
|              |                  | Unit-IV  | 191.00          | 400kV MHP - Jigmeling Fdr - IV                       | 0.00        |      |   |
|              |                  | -  | -               | 200MVA, 400/132kV ICT                                |             |      |   |
|              |                  | -  | -               | (Local Load)   |             |      |   |
|              |                  | <b>Total</b>   | <b>566.00</b>   | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>3.10</b> |      |   |
| 3            | 336MW CHP        | Unit- I  | 0.00            | 220kV CHP - Birpara Fdr- I                           | 94.70       | +    | Unit-I under breakdown.                           |
|              |                  | Unit- II   | 92.00           | 220kV CHP - Birpara Fdr- II                          | 94.70       | +    |   |
|              |                  | Unit- III  | 92.00           | 220kV CHP - Malbase Fdr- III                         | 152.40      | +    |   |
|              |                  | Unit- IV   | 92.00           | 220kV CHP - Semtokha Fdr- IV                         | -78.80      | -    |   |
|              |                  | -  | -               | 220kV Malbase - Birpara Fdr.                         | 36.00       | +    |   |
|              |                  | -  | -               | 66kV CHP - Chumdo Fdr.                               | -1.00       | -    |   |
|              |                  | -  | -               | 66kV CHP - Gedu Fdr.                                 | 8.60        | +    |   |
|              |                  | <b>Total</b>   | <b>276.00</b>   | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>4.55</b> |      |   |
| 4            | 24MW BHP (U/S)   | Unit- I  | 12.30           | 220kV BHP - Semtokha Fdr.                            | 107.00      | +    |   |
|              |                  | Unit- II   | 12.20           | 66kV BHP - Lobeyasa Fdr.                             | 18.90       | +    |   |
|              |                  | <b>Total</b>   | <b>24.50</b>    | 220kV BHP - Tsirang Fdr.                             | -57.07      | -    |   |
|              | 40MW BHP (L/S)   | Unit- I  | 20.60           | 5MVA, 66/11kV TFR                                    | 0.91        | +    |   |
|              |                  | Unit- II   | 21.00           | 30MVA ICT, 220/66kV                                  |             |      |   |
| <b>Total</b> | <b>41.60</b>     | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>-3.64</b>    |  |             |      |   |
| 5            | 126MW DHPC       | Unit-I   | 63.51           | 220kV DHPC - Tsirang Fdr.                            | 126.31      | +    |   |
|              |                  | Unit-II  | 63.21           | 220kV Jigmeling - Dagapela Fdr.                      |             |      |   |
|              |                  | -  | -               | 5MVA, 220/33kV TFR                                   |             |      |   |
|              |                  | <b>Total</b>   | <b>126.72</b>   | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>0.41</b> |      |   |
| 6            | 60MW KHP         | Unit- I  | 16.50           | 132kV KHP - Nangkhor Fdr- I                          | 59.86       | +    | Motanga Substation is bypassed through ERS tower. |
|              |                  | Unit-II  | 16.50           | 132kV KHP - Kilikhar Fdr- II                         | 4.91        | +    |   |
|              |                  | Unit- III  | 16.50           | 5MVA, 132/11kV TFR                                   | 0.30        | +    |   |
|              |                  | Unit- IV   | 16.50           | 132kV Gelephu - Salakati Fdr.                        | 44.08       | +    |   |
|              |                  | -  | -               | 132kV Motanga - Rangia Fdr.                          | 38.74       | +    |   |
|              |                  | -  | -               | 220kV Tsirang - Jigmeling                            | 68.94       | +    |   |
|              |                  | <b>Total</b>   | <b>66.00</b>    | <b>Error at Station/Auxiliary Consumption/Losses</b> | <b>0.93</b> |      |   |

**Note: Load summary on September 25, 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 | 1,584.82              | 204.48                                | 194.16                             | 1,311.40            | 10.32        |
| 2      | Eastern Grid | 632.00                | 55.22                                 | 51.19                              | 645.72              | 4.03         |
|        | <b>Total</b> | <b>2,216.82</b>       | <b>259.70</b>                         | <b>245.35</b>                      | <b>1,957.12</b>     | <b>14.35</b> |

**Note: Load Summary on September 25, 2018 at 09:00hrs**

| Sl. No | Region          | 09:00Hrs Load (MW) | Day Peak Load (MW) | Month Peak Load (MW) |
|--------|-----------------|--------------------|--------------------|----------------------|
| 1      | Western Grid    | 209.55             | 240.25             | 256.15               |
| 2      | Eastern Grid    | 33.37              | 51.64              | 57.74                |
|        | <b>National</b> | <b>242.92</b>      | <b>291.89</b>      | <b>313.89</b>        |

**NOTES: All generations and loads are collected from sites.**

- 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:
  - 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.
  - The clocks of all the locations are not synchronized.
- This report is generated to give an idea of the generation & load flow for the system at a particular instant.