



འཇུག་ལྷན་ཁང་འཕེལ་རྒྱུ་ལྟན་གྱི་ལྷན་ཁག་ འཕེལ་འགྲུལ་ལྷན་ཁག་།  
 Ministry of Energy and Natural Resources  
 Royal Government of Bhutan  
 Office of the Bhutan Power System Operator  
 Thimphu: Bhutan



**THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 06-Nov-2024(-ve:import, +ve:export)**

| Report Details | Date      | Time      | National Coincidental Peak Load (MW) | Date      | Time      | Load   |
|----------------|-----------|-----------|--------------------------------------|-----------|-----------|--------|
|                | 05-Nov-24 | 09:00 hrs |                                      | 30-Dec-23 | 18:00 hrs | 955.51 |

| Sl. No.      | Hydropower Plant   | Unit  | MW            | Transmission Lines and Elements   | Load (MW)    | Remarks  |
|--------------|--------------------|---|---------------|---|--------------|--|
| 1            | 6 x 170MW THP      | Unit- I   | 131.90        | 400kV THP - Siliguri Line - I   | 0.00         | Unit-V under AMP.<br>Unit-II under breakdown.<br>400kV THP_Siliguri line-I on Standby.<br>400kV THP-MAL line under shutdown  |
|              |                    | Unit- II  | 0.00          | 400kV THP - Siliguri Line - II  | 249.80       |  |
|              |                    | Unit- III   | 106.43        | 400kV THP - Siliguri Line- IV   | 236.71       |  |
|              |                    | Unit- IV  | 140.30        | 400kV THP - Malbase Line - III  | 0.00         |  |
|              |                    | Unit- V   | 0.00          | 400kV Malbase - Siliguri Line   | -211.81      |  |
|              |                    | Unit- VI  | 110.31        | -   | -            |  |
|              |                    | <b>Total</b>  | <b>488.94</b> | <b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b> | <b>0.50%</b> |  |
| 2            | 4 x 180MW MHP      | Unit-I  | 0.00          | 400kV MHP - Jigmeling Line - I  | 0.00         | Unit-I under AMP.<br>Unit-II on standby.<br>400kV MHP-JLG Line I under Breakdown.<br>400kV MHP-JLG line II on Standby.<br>132kV MHP_Yurmo Line- I not in Service.<br>400kV JLG_ALI Interim Line II on Standby. |
|              |                    | Unit-II   | 0.00          | 400kV MHP - Jigmeling Line - II   | 0.00         |  |
|              |                    | Unit-III  | 161.57        | 400kV MHP - Jigmeling Line - III  | 164.09       |  |
|              |                    | Unit-IV   | 170.32        | 400kV MHP - Jigmeling Line - IV   | 163.35       |  |
|              |                    | -   | -             | 132kV MHP - Yurmo Line - I  | 0.00         |  |
|              |                    | -   | -             | 132kV MHP - Yurmo Line - II   | 63.97        |  |
|              |                    | -   | -             | 500MVA, 400/220kV ICT at Jigmeling (HV)                                   | 136.73       |  |
|              |                    | -   | -             | 400kV Jigmeling - Puna - Alipurduar Line - I                              | 47.27        |  |
|              |                    | -   | -             | 400kV Jigmeling - Puna - Alipurduar Line - II                             | 0.00         |  |
|              |                    | -   | -             | 400kV Jigmeling - Alipurduar Line - I                                     | 69.09        |  |
|              |                    | -   | -             | 400kV Jigmeling - Alipurduar Line - II                                    | 69.82        |  |
|              |                    | -   | -             | 80MVA, 220/132kV ICT - I (HV)   | 22.72        |  |
|              |                    | -   | -             | 80MVA, 220/132kV ICT - II (HV)  | 22.48        |  |
|              |                    | -   | -             | 220kV Tsirang - Jigmeling Line  | -38.47       |  |
|              |                    | -   | -             | 132kV Gelephu - Salakati Line   | 15.49        |  |
| <b>Total</b> | <b>331.89</b>      | <b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b> | <b>-0.03%</b> |   |              |  |
| 3            | 4 x 84MW CHP       | Unit- I   | 91.92         | 220kV CHP - Birpara Line - I  | 0.00         | Unit-IV on Standby.<br>220kV CHP-Birpara Line I under shutdown.  |
|              |                    | Unit- II  | 91.26         | 220kV CHP - Birpara Line - II   | -54.34       |  |
|              |                    | Unit- III   | 47.33         | 220kV CHP - Gedu  | 53.32        |  |
|              |                    | Unit- IV  | 0.00          | 220kV CHP - Jamjee (old) - I  | 74.88        |  |
|              |                    | -   | -             | 220kV CHP - Jamjee - II (new)   | 75.18        |  |
|              |                    | -   | -             | 220kV CHP - Jamjee - III (new)  | 72.40        |  |
|              |                    | -   | -             | 220kV Malbase - Birpara Line  | -84.19       |  |
|              |                    | -   | -             | 66kV CHP - Gedu Line  | 8.34         |  |
|              |                    | -   | -             | 3x3MVA, 66/11kV TFR   | 1.24         |  |
| <b>Total</b> | <b>230.51</b>      | <b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b> | <b>-0.22%</b> |   |              |  |
| 4            | 2 x 12MW BHP (U/S) | Unit- I   | 6.08          | 220kV BHP - Semtokha Line   | 101.50       |  |
|              |                    | Unit- II  | 7.49          | 66kV BHP - Lobeysa Line   | 25.20        |  |
| <b>Total</b> | <b>13.57</b>       | <b>220kV BHP - Tsirang Line</b>   | <b>-88.87</b> |   |              |  |
| 5            | 2 x 20MW BHP (L/S) | Unit- I   | 12.73         | 5MVA, 66/11kV TFR   | 0.38         |  |
|              |                    | Unit- II  | 12.27         | 30MVA ICT, 220/66kV (HV)  | 12.72        |  |
| <b>Total</b> | <b>25.00</b>       | <b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b> | <b>0.93%</b>  |   |              |  |
| 6            | 2 x 63MW DHP       | Unit-I  | 0.00          | 220kV DHP - Tsirang Line  | 53.21        | Unit I on Standby.<br>220kV DHP_Dagapela Line on Standby.  |
|              |                    | Unit-II   | 53.51         | 220kV DHP - Dagapela Line   | 0.00         |  |
|              |                    | -   | -             | 220kV Jigmeling - Dagapela Line   | 52.79        |  |
|              |                    | -   | -             | 5MVA, 220/33kV TFR  | 0.20         |  |
| <b>Total</b> | <b>53.51</b>       | <b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b> | <b>0.19%</b>  |   |              |  |
| 7            | 4 x 15MW KHP       | Unit- I   | 15.12         | 132kV KHP - Nangkhor Line   | 28.62        | Unit II under Shutdown   |
|              |                    | Unit-II   | 0.00          | 132kV KHP - Kilikhar Line   | 16.18        |  |
|              |                    | Unit- III   | 15.09         | 5MVA, 132/11kV TFR  | 0.22         |  |
|              |                    | Unit- IV  | 15.28         | 132kV Motanga - Rangia Line   | 21.79        |  |
|              |                    | <b>Total</b>  | <b>45.49</b>  | <b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b> | <b>1.03%</b> |  |
| 8            | 2 x 59MW NHP       | Unit-I  | 15.00         | 132kV NHP-MHP-I   | 14.78        |  |
|              |                    | Unit-II   | 45.14         | 132kV NHP-MHP-II  | 44.64        |  |
|              |                    | <b>Total</b>  | <b>60.14</b>  | <b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b> | <b>1.20%</b> |  |

Note: Generation-Load Summary (MW) for 05-Nov-24 at 09:00 hrs

| Sl. No.      | Region       | Total Generation | Total Load (Gen. - Exp.) | Total Load (Feeder Summation) | Total Export/Import | Auxiliary Consumption & Transformation Losses |
|--------------|--------------|------------------|--------------------------|-------------------------------|---------------------|---|
| 1            | Western Grid | 811.53           | 713.83                   | 711.45                        | 136.17              | 2.38  |
| 2            | Eastern Grid | 437.52           | 175.59                   | 174.50                        | 223.46              | 1.09  |
| <b>Total</b> |              | <b>1,249.05</b>  | <b>889.42</b>            | <b>885.95</b>                 | <b>359.63</b>       | <b>3.47</b>                                   |

Note: Generation-Load Summary for 05-Nov-23 at 09:00 hrs

| Sl. No.      | Region       | Total Generation | Total Load (Gen. - Exp.) | Total Load (Feeder Summation) | Total Export/Import | Auxiliary Consumption & Transformation Losses |
|--------------|--------------|------------------|--------------------------|-------------------------------|---------------------|---|
| 1            | Western Grid | 628.16           | 663.53                   | 665.46                        | 27.77               | -1.93   |
| 2            | Eastern Grid | 258.14           | 178.59                   | 176.07                        | 16.41               | 2.52  |
| <b>Total</b> |              | <b>886.30</b>    | <b>842.12</b>            | <b>841.53</b>                 | <b>44.18</b>        | <b>0.59</b>                                   |

| THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 06-Nov-2024(-ve:import, +ve:export) |                    |   |                                      |   |                |   |        |
|--|--------------------|---|--------------------------------------|---|----------------|---|--------|
| Report Details   | Date               | Time  | National Coincidental Peak Load (MW) |   | Date           | Time  | Load   |
|  | 5-Nov-2024         | 18:00 hrs   |                                      |   | 30-Dec-2023    | 18:00 hrs   | 955.51 |
| Sl. No.  | Hydropower Plant   | Unit  | MW                                   | Transmission Lines and Elements   | Load (MW)      | Remarks   |        |
| 1  | 6 x 170MW THP      | Unit-I  | 106.55                               | 400kV THP - Siliguri Line - I   | 0.00           | Unit-II under Shutdown.<br>Unit-V under AMP.<br>400kV THP_Siliguri line-I on Standby.<br>400kV THP - Malbase Line - III under Shutdown.   |        |
|  |                    | Unit-II   | 0.00                                 | 400kV THP - Siliguri Line - II  | 239.30         |   |        |
|  |                    | Unit-III  | 106.72                               | 400kV THP - Siliguri Line- IV   | 220.90         |   |        |
|  |                    | Unit-IV   | 137.05                               | 400kV THP - Malbase Line - III  | 0.00           |   |        |
|  |                    | Unit-V  | 0.00                                 | 400kV Malbase - Siliguri Line   | -230.27        |   |        |
|  |                    | Unit-VI   | 109.88                               | -   | -              |   |        |
|  |                    | <b>Total</b>  | <b>460.20</b>                        | <b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b> | <b>0.00%</b>   |   |        |
| 2  | 4 x 180MW MHP      | Unit-I  | 0.00                                 | 400kV MHP - Jigmeling Line - I  | 0.00           | Unit-I under AMP.<br>Unit-II on Standby.<br>400kV MHP-JLG Line I under Breakdown.<br>400kV MHP-JLG line II on Standby.<br>132kV MHP_Yurmoo Line- I not in Service.<br>400kV JLG_ALI Interim Line II on Standby. |        |
|  |                    | Unit-II   | 0.00                                 | 400kV MHP - Jigmeling Line - II   | 0.00           |   |        |
|  |                    | Unit-III  | 182.77                               | 400kV MHP - Jigmeling Line - III  | 173.77         |   |        |
|  |                    | Unit-IV   | 170.40                               | 400kV MHP - Jigmeling Line - IV   | 170.40         |   |        |
|  |                    | -   | -                                    | 132kV MHP - Yurmo Line - I  | 0.00           |   |        |
|  |                    | -   | -                                    | 132kV MHP - Yurmo Line - II   | 64.19          |   |        |
|  |                    | -   | -                                    | 500MVA, 400/220kV ICT at Jigmeling (HV)                                   | 170.55         |   |        |
|  |                    | -   | -                                    | 400kV Jigmeling - Puna - Alipurduar Line - I                              | 42.91          |   |        |
|  |                    | -   | -                                    | 400kV Jigmeling - Puna - Alipurduar Line - II                             | 0.00           |   |        |
|  |                    | -   | -                                    | 400kV Jigmeling - Alipurduar Line - I                                     | 64.73          |   |        |
|  |                    | -   | -                                    | 400kV Jigmeling - Alipurduar Line - II                                    | 65.46          |   |        |
|  |                    | -   | -                                    | 80MVA, 220/132kV ICT - I (HV)   | 30.17          |   |        |
|  |                    | -   | -                                    | 80MVA, 220/132kV ICT - II (HV)  | 29.87          |   |        |
|  |                    | -   | -                                    | 220kV Tsirang - Jigmeling Line  | -55.71         |   |        |
|  |                    | -   | -                                    | 132kV Gelephu - Salakati Line   | 8.59           |   |        |
| <b>Total</b>   | <b>353.17</b>      | <b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b> | <b>1.21%</b>                         |   |                |   |        |
| 3  | 4 x 84MW CHP       | Unit-I  | 76.49                                | 220kV CHP - Birpara Line - I  | 0.00           | Unit-IV on Standby.<br>220kV CHP - Birpara Line - I under Shutdown.   |        |
|  |                    | Unit-II   | 79.24                                | 220kV CHP - Birpara Line - II   | -58.56         |   |        |
|  |                    | Unit-III  | 68.50                                | 220kV CHP - Gedu  | 35.42          |   |        |
|  |                    | Unit-IV   | 0.00                                 | 220kV CHP - Jamjee (old) - I  | 80.15          |   |        |
|  |                    | -   | -                                    | 220kV CHP - Jamjee - II (new)   | 80.67          |   |        |
|  |                    | -   | -                                    | 220kV CHP - Jamjee - III (new)  | 77.88          |   |        |
|  |                    | -   | -                                    | 220kV Malbase - Birpara Line  | -77.87         |   |        |
|  |                    | -   | -                                    | 66kV CHP - Gedu Line  | 7.54           |   |        |
|  |                    | -   | -                                    | 3x3MVA, 66/11kV TFR   | 1.75           |   |        |
| <b>Total</b>   | <b>224.23</b>      | <b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b> | <b>-0.28%</b>                        |   |                |   |        |
| 4  | 2 x 12MW BHP (U/S) | Unit-I  | 6.28                                 | 220kV BHP - Sentokha Line   | 113.40         |   |        |
|  |                    | Unit-II   | 7.26                                 | 66kV BHP - Lobeyasa Line  | 28.19          |   |        |
|  |                    | <b>Total</b>  | <b>13.54</b>                         | <b>220kV BHP - Tsirang Line</b>   | <b>-103.71</b> |   |        |
| 5  | 2 x 20MW BHP (L/S) | Unit-I  | 12.74                                | 5MVA, 66/11kV TFR   | 0.67           |   |        |
|  |                    | Unit-II   | 12.28                                | 30MVA ICT, 220/66kV (HV)  | 15.93          |   |        |
|  |                    | <b>Total</b>  | <b>25.02</b>                         | <b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b> | <b>0.03%</b>   |   |        |
| 6  | 2 x 63MW DHP       | Unit-I  | 0.00                                 | 220kV DHP - Tsirang Line  | 52.64          | Unit I on Standby.<br>220kV DHP_Dagapela line on Standby.   |        |
|  |                    | Unit-II   | 52.96                                | 220kV DHP - Dagapela Line   | 0.00           |   |        |
|  |                    | -   | -                                    | 220kV Jigmeling - Dagapela Line   | 53.89          |   |        |
|  |                    | -   | -                                    | 5MVA, 220/33kV TFR  | 0.20           |   |        |
| <b>Total</b>   | <b>52.96</b>       | <b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b> | <b>0.23%</b>                         |   |                |   |        |
| 7  | 4 x 15MW KHP       | Unit-I  | 15.22                                | 132kV KHP - Nangkor Line  | 24.67          | KHP Unit-III on Standby.  |        |
|  |                    | Unit-II   | 15.26                                | 132kV KHP - Kilikhar Line   | 20.25          |   |        |
|  |                    | Unit-III  | 0.00                                 | 5MVA, 132/11kV TFR  | 0.32           |   |        |
|  |                    | Unit-IV   | 15.23                                | 132kV Motanga - Rangia Line   | 30.06          |   |        |
|  |                    | <b>Total</b>  | <b>45.71</b>                         | <b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b> | <b>1.03%</b>   |   |        |
| 8  | 2 x 59MW NHP       | Unit-I  | 14.98                                | 132kV NHP-MHP-I   | 14.85          |   |        |
|  |                    | Unit-II   | 44.98                                | 132kV NHP-MHP-II  | 44.63          |   |        |
|  |                    | <b>Total</b>  | <b>59.96</b>                         | <b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b> | <b>0.80%</b>   |   |        |

Note: Generation-Load Summary (MW) for 05-Nov-2024 at 18:00 hrs

| Sl. No.      | Region       | Total Generation | Total Load (Gen. - Exp.) | Total Load (Feeder Summation) | Total Export/Import | Auxiliary Consumption & Transformation Losses |
|--------------|--------------|------------------|--------------------------|-------------------------------|---------------------|---|
| 1            | Western Grid | 775.95           | 738.16                   | 738.65                        | 93.50               | -0.49   |
| 2            | Eastern Grid | 458.84           | 191.38                   | 186.14                        | 211.75              | 5.24  |
| <b>Total</b> |              | <b>1,234.79</b>  | <b>929.54</b>            | <b>924.79</b>                 | <b>305.25</b>       | <b>4.75</b>                                   |

Note: Generation-Load Summary (MW) for 05-Nov-2023, at 18:00 hrs

| Sl. No.      | Region       | Total Generation | Total Load (Gen. - Exp.) | Total Load (Feeder Summation) | Total Export/Import | Auxiliary Consumption & Transformation Losses |
|--------------|--------------|------------------|--------------------------|-------------------------------|---------------------|---|
| 1            | Western Grid | 633.95           | 697.77                   | 699.70                        | 9.1                 | -1.93   |
| 2            | Eastern Grid | 257.89           | 197.89                   | 195.55                        | -12.92              | 2.34  |
| <b>Total</b> |              | <b>891.84</b>    | <b>895.66</b>            | <b>895.25</b>                 | <b>-3.82</b>        | <b>0.41</b>                                   |

Note: Daily Energy (MUs) and Power(MW) Statistics for 05-Nov-2024

| Sl. No. | Net Energy Export (Bilateral) | Net Energy Import (Bilateral) | Daily Energy Met | Total Energy Generation | Peak Cross-border (MW) | Imp./Exp. through Exchange (MUs) |
|---------|-------------------------------|-------------------------------|------------------|-------------------------|------------------------|----------------------------------|
| 1       | 8.62                          | 0.00                          | 20.59            | 29.37                   | 443.10                 | 0.00                             |

- The Instantaneous load balance, 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. ii) The clocks of all the locations are not synchronized.
- This report, compiled using the SCADA data, is prepared to give an overall idea of the generation & load flow for the system at a particular instant. This report also gives energy and import/export figures.
- When SCADA data are unavailable for certain stations due to technical issues, required data are collected from the site.