



ལྷན་ཁག་དང་འཕེལ་རྒྱུ་ཚོད་ཀྱི་ཉམས་ཞུག་ དཔལ་འདུན་པ་ལྷན་ཁག་གི་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 03-Sep-2024(-ve:import, +ve:export)**

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	02-Sep-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	185.51	400kV THP - Siliguri Line - I	0.00	400kV THP-Siliguri Line -I under breakdown
		Unit- II	183.57	400kV THP - Siliguri Line - II	309.95	
		Unit- III	185.50	400kV THP - Siliguri Line- IV	294.21	
		Unit- IV	186.91	400kV THP - Malbase Line - III	514.21	
		Unit- V	186.65	400kV Malbase - Siliguri Line	238.69	
		Unit- VI	185.60	-	-	
		<b>Total</b>	<b>1,113.74</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>-0.42%</b>	
2	4 x 180MW MHP	Unit-I	185.15	400kV MHP - Jigmeling Line - I	265.23	400kV MHP-JLG Line III on Standby. 132kV MHP_Yurmoo Line- I not in Service. 400kV JLG_ALI Direct Line I & 400kV JLG_ALI Interim Line I on Standby.
		Unit-II	189.25	400kV MHP - Jigmeling Line - II	264.60	
		Unit-III	180.70	400kV MHP - Jigmeling Line - III	0.00	
		Unit-IV	180.49	400kV MHP - Jigmeling Line - IV	258.71	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	60.98	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	122.55	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	263.27	
		-	-	400kV Jigmeling - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II	395.64	
		-	-	80MVA, 220/132kV ICT - I (HV)	38.40	
		-	-	80MVA, 220/132kV ICT - II (HV)	38.12	
		-	-	220kV Tsirang - Jigmeling Line	-8.16	
-	-	132kV Gelephu - Salakati Line	33.77			
<b>Total</b>	<b>735.59</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>0.43%</b>			
3	4 x 84MW CHP	Unit- I	91.33	220kV CHP - Birpara Line - I	35.67	
		Unit- II	91.41	220kV CHP - Birpara Line - II	35.28	
		Unit- III	91.03	220kV CHP - Gedu	97.10	
		Unit- IV	91.43	220kV CHP - Jamjee (old) - I	62.86	
		-	-	220kV CHP - Jamjee - II (new)	63.96	
		-	-	220kV CHP - Jamjee - III (new)	61.70	
		-	-	220kV Malbase - Birpara Line	25.28	
		-	-	66kV CHP - Gedu Line	9.32	
-	-	3x3MVA, 66/11kV TFR	0.77			
<b>Total</b>	<b>365.20</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>-0.40%</b>			
4	2 x 12MW BHP (U/S)	Unit- I	12.00	220kV BHP - Semtokha Line	117.00	
		Unit- II	12.00	66kV BHP - Lobeyasa Line	26.50	
		<b>Total</b>	<b>24.00</b>	220kV BHP - Tsirang Line	-78.26	
5	2 x 20MW BHP (L/S)	Unit- I	20.70	5MVA, 66/11kV TFR	0.30	
		Unit- II	20.90	30MVA ICT, 220/66kV (HV)	3.62	
		<b>Total</b>	<b>41.60</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>0.09%</b>	
6	2 x 63MW DHP	Unit-I	45.37	220kV DHP - Tsirang Line	89.93	220kV DHP_Dagapela Line on Standby.
		Unit-II	44.99	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	54.04	
		-	-	5MVA, 220/33kV TFR	0.20	
<b>Total</b>	<b>90.36</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>0.25%</b>			
7	4 x 15MW KHP	Unit- I	16.53	132kV KHP - Nangkor Line	42.78	
		Unit-II	16.50	132kV KHP - Kilikhar Line	22.39	
		Unit- III	16.56	5MVA, 132/11kV TFR	0.30	
		Unit- IV	16.54	132kV Motanga - Rangia Line	54.32	
		<b>Total</b>	<b>66.13</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>1.00%</b>	
8	2 x 59MW NHP	Unit-I	59.00	132kV NHP-MHP-I	58.57	
		Unit-II	58.98	132kV NHP-MHP-II	58.53	
		<b>Total</b>	<b>117.98</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>0.75%</b>	

Note: Generation-Load Summary (MW) for 02-Sep-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	1,634.90	703.98	709.78	939.08	-5.80
2	Eastern Grid	919.70	164.54	159.83	747.00	4.71
<b>Total</b>		<b>2,554.60</b>	<b>868.52</b>	<b>869.61</b>	<b>1,686.08</b>	<b>-1.09</b>

Note: Generation-Load Summary for 02-Sep-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	1,669.15	612.65	605.30	1,033.31	7.35
2	Eastern Grid	854.50	186.18	181.69	691.51	4.49
<b>Total</b>		<b>2,523.65</b>	<b>798.83</b>	<b>786.99</b>	<b>1,724.82</b>	<b>11.84</b>

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 03-Sep-2024(-ve:import, +ve:export)							
Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	2-Sep-2024	19:00 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	186.25	400kV THP - Siliguri Line - I	0.00	400kV THP-SIL line I under Breakdown.	
		Unit-II	185.05	400kV THP - Siliguri Line - II	297.15		
		Unit-III	185.67	400kV THP - Siliguri Line - IV	281.45		
		Unit-IV	185.81	400kV THP - Malbase Line - III	537.90		
		Unit-V	184.74	400kV Malbase - Siliguri Line	222.55		
		Unit-VI	185.45	-	-		
		<b>Total</b>	<b>1,112.97</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>-0.32%</b>		
2	4 x 180MW MHP	Unit-I	180.09	400kV MHP - Jigmeling Line - I	257.97	400kV MHP-JLG Line III on Standby. 132kV MHP_Yurmo Line-I not in Service. 400kV JLG_ALI Interim Line I & 400kV JLG_ALI Direct line I on Standby.	
		Unit-II	165.07	400kV MHP - Jigmeling Line - II	257.46		
		Unit-III	181.02	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	180.63	400kV MHP - Jigmeling Line - IV	251.35		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	62.98		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	141.46		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	246.81		
		-	-	400kV Jigmeling - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - II	369.80		
		-	-	80MVA, 220/132kV ICT - I (HV)	45.70		
		-	-	80MVA, 220/132kV ICT - II (HV)	46.70		
		-	-	220kV Tsirang - Jigmeling Line	6.44		
		-	-	132kV Gelephu - Salakati Line	31.39		
<b>Total</b>	<b>706.81</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>0.59%</b>				
3	4 x 84MW CHP	Unit-I	91.33	220kV CHP - Birpara Line - I	39.35		
		Unit-II	91.41	220kV CHP - Birpara Line - II	39.02		
		Unit-III	91.03	220kV CHP - Gedu	79.42		
		Unit-IV	91.43	220kV CHP - Jamjee (old) - I	66.97		
		-	-	220kV CHP - Jamjee - II (new)	67.35		
		-	-	220kV CHP - Jamjee - III (new)	65.35		
		-	-	220kV Malbase - Birpara Line	43.52		
		-	-	66kV CHP - Gedu Line	8.50		
		-	-	3x3MVA, 66/11kV TFR	1.40		
<b>Total</b>	<b>365.20</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>-0.59%</b>				
4	2 x 12MW BHP (U/S)	Unit-I	12.00	220kV BHP - Sentsokha Line	124.90		
		Unit-II	12.00	66kV BHP - Lobeyasa Line	29.50		
		<b>Total</b>	<b>24.00</b>	220kV BHP - Tsirang Line	-89.01		
5	2 x 20MW BHP (L/S)	Unit-I	21.00	5MVA, 66/11kV TFR	0.69		
		Unit-II	21.00	30MVA ICT, 220/66kV (HV)	6.66		
		<b>Total</b>	<b>42.00</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>-0.12%</b>		
6	2 x 63MW DHP	Unit-I	50.40	220kV DHP - Tsirang Line	99.88	220kV DHP_Dagapela Line on Standby.	
		Unit-II	50.05	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	54.90		
		-	-	5MVA, 220/33kV TFR	0.30		
<b>Total</b>	<b>100.45</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>0.27%</b>				
7	4 x 15MW KHP	Unit-I	16.55	132kV KHP - Nangkor Line	38.89		
		Unit-II	16.53	132kV KHP - Kilikhar Line	25.98		
		Unit-III	16.54	5MVA, 132/11kV TFR	0.28		
		Unit-IV	16.66	132kV Motanga - Rangia Line	64.14		
<b>Total</b>	<b>66.28</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>1.70%</b>				
8	2 x 59MW NHP	Unit-I	63.98	132kV NHP-MHP-I	63.58		
		Unit-II	63.99	132kV NHP-MHP-II	63.56		
		<b>Total</b>	<b>127.97</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>0.65%</b>		

Note: Generation-Load Summary (MW) for 02-Sep-2024 at 19:00 hrs

Sl. No.	Region	Total Generation	Total Load (Gen. - Exp.)	Total Load (Feeder Summation)	Total Export/Import	Auxiliary Consumption & Transformation Losses
1	Western Grid	1,644.62	715.14	720.64	923.04	-5.50
2	Eastern Grid	901.06	195.36	189.21	712.14	6.15
<b>Total</b>		<b>2,545.68</b>	<b>910.50</b>	<b>909.85</b>	<b>1,635.18</b>	<b>0.65</b>

Note: Generation-Load Summary (MW) for 02-Sep-2023, at 19:00 hrs

Sl. No.	Region	Total Generation	Total Load (Gen. - Exp.)	Total Load (Feeder Summation)	Total Export/Import	Auxiliary Consumption & Transformation Losses
1	Western Grid	1,672.37	617.32	608.17	1040.17	9.15
2	Eastern Grid	854.44	203.96	199.72	665.36	4.24
<b>Total</b>		<b>2,526.81</b>	<b>821.28</b>	<b>807.89</b>	<b>1,705.53</b>	<b>13.39</b>

Note: Daily Energy (MUs) and Power(MW) Statistics for 02-Sep-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	39.37	0.00	20.79	61.77	1,811.52	1.65

- 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.