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 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 30-Oct-2024(-ve:import, +ve:export)**

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	29-Oct-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	70.00	400kV THP - Siliguri Line - I	0.00	400kV THP_Siliguri line-I on standby. Unit-V under AMP. 400kV MAL-SIL line under Shutdown.
		Unit- II	158.58	400kV THP - Siliguri Line - II	127.86	
		Unit- III	74.17	400kV THP - Siliguri Line- IV	121.74	
		Unit- IV	140.47	400kV THP - Malbase Line - III	288.52	
		Unit- V	0.00	400kV Malbase - Siliguri Line	0.00	
		Unit- VI	99.23	-	-	
		<b>Total</b>	<b>542.45</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>0.80%</b>	
2	4 x 180MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Line - I	0.00	Unit-I under Shutdown. 400kV MHP-JLG Line I under Breakdown. 400kV MHP-JLG line II on Standby. 132kV MHP_Yurmo Line- I not in Service. 400kV JLG_ALI Interim Line II on Standby.
		Unit-II	190.22	400kV MHP - Jigmeling Line - II	0.00	
		Unit-III	105.63	400kV MHP - Jigmeling Line - III	192.31	
		Unit-IV	80.03	400kV MHP - Jigmeling Line - IV	191.30	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	61.94	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	107.64	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	68.36	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I	101.82	
		-	-	400kV Jigmeling - Alipurduar Line - II	102.55	
		-	-	80MVA, 220/132kV ICT - I (HV)	23.30	
		-	-	80MVA, 220/132kV ICT - II (HV)	23.07	
		-	-	220kV Tsirang - Jigmeling Line	-8.57	
		-	-	132kV Gelephu - Salakati Line	15.11	
<b>Total</b>	<b>375.88</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>-0.05%</b>			
3	4 x 84MW CHP	Unit- I	86.61	220kV CHP - Birpara Line - I	-9.69	Unit-III under Shutdown.
		Unit- II	86.06	220kV CHP - Birpara Line - II	-9.69	
		Unit- III	0.00	220kV CHP - Gedu	42.27	
		Unit- IV	85.43	220kV CHP - Jamjee (old) - I	76.76	
		-	-	220kV CHP - Jamjee - II (new)	77.34	
		-	-	220kV CHP - Jamjee - III (new)	74.53	
		-	-	220kV Malbase - Birpara Line	-6.07	
		-	-	66kV CHP - Gedu Line	6.71	
		-	-	3x3MVA, 66/11kV TFR	1.09	
<b>Total</b>	<b>258.10</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>-0.47%</b>			
4	2 x 12MW BHP (U/S)	Unit- I	7.30	220kV BHP - Semtokha Line	87.80	
		Unit- II	7.90	66kV BHP - Lobeysa Line	24.27	
		<b>Total</b>	<b>15.20</b>	220kV BHP - Tsirang Line	-70.32	
5	2 x 20MW BHP (L/S)	Unit- I	13.60	5MVA, 66/11kV TFR	0.36	
		Unit- II	13.50	30MVA ICT, 220/66kV (HV)	9.62	
		<b>Total</b>	<b>27.10</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>0.45%</b>	
6	2 x 63MW DHP	Unit-I	32.74	220kV DHP - Tsirang Line	64.32	220kV DHP_Dagapela Line on Standby.
		Unit-II	32.15	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	52.91	
		-	-	5MVA, 220/33kV TFR	0.30	
<b>Total</b>	<b>64.89</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>0.42%</b>			
7	4 x 15MW KHP	Unit- I	12.68	132kV KHP - Nangkhor Line	31.97	
		Unit-II	12.68	132kV KHP - Kilikhar Line	17.97	
		Unit- III	12.68	5MVA, 132/11kV TFR	0.25	
		Unit- IV	12.71	132kV Motanga - Rangia Line	28.68	
		<b>Total</b>	<b>50.75</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>1.10%</b>	
8	2 x 59MW NHP	Unit-I	25.03	132kV NHP-MHP-I	24.80	
		Unit-II	44.86	132kV NHP-MHP-II	44.67	
		<b>Total</b>	<b>69.89</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>0.60%</b>	

Note: Generation-Load Summary (MW) for 29-Oct-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	907.74	692.16	688.59	224.15	3.57
2	Eastern Grid	496.52	171.43	170.65	316.52	0.78
<b>Total</b>		<b>1,404.26</b>	<b>863.59</b>	<b>859.24</b>	<b>540.67</b>	<b>4.35</b>

Note: Generation-Load Summary for 29-Oct-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	767.45	569.41	561.99	154.78	7.42
2	Eastern Grid	293.07	262.12	260.34	74.21	1.78
<b>Total</b>		<b>1,060.52</b>	<b>831.53</b>	<b>822.33</b>	<b>228.99</b>	<b>9.20</b>

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 30-Oct-2024(-ve:import, +ve:export)							
Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	29-Oct-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	69.63	400kV THP - Siliguri Line - I	0.00	Unit-V under AMP. 400kV THP_Siliguri line-I on standby 400kV MAL-SIL line under Shutdown.	
		Unit-II	157.43	400kV THP - Siliguri Line - II	112.25		
		Unit-III	74.22	400kV THP - Siliguri Line- IV	105.31		
		Unit-IV	140.67	400kV THP - Malbase Line - III	322.38		
		Unit-V	0.00	400kV Malbase - Siliguri Line	0.00		
		Unit-VI	99.15	-	-		
		<b>Total</b>	<b>541.10</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>0.21%</b>		
2	4 x 180MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Line - I	0.00	Unit-I under shutdown. 400kV MHP-JLG Line I under Breakdown. 400kV MHP-JLG line II on Standby. 132kV MHP_Yurmo Line - I not in Service. 400kV JLG_ALI Interim Line II on Standby.	
		Unit-II	190.22	400kV MHP - Jigmeling Line - II	0.00		
		Unit-III	116.74	400kV MHP - Jigmeling Line - III	196.88		
		Unit-IV	80.01	400kV MHP - Jigmeling Line - IV	195.94		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	63.39		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	138.14		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	62.78		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - I	93.96		
		-	-	400kV Jigmeling - Alipurduar Line - II	92.80		
		-	-	80MVA, 220/132kV ICT - I (HV)	30.85		
		-	-	80MVA, 220/132kV ICT - II (HV)	30.59		
		-	-	220kV Tsirang - Jigmeling Line	-24.40		
		-	-	132kV Gelephu - Salakati Line	10.00		
<b>Total</b>	<b>386.97</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>-0.11%</b>				
3	4 x 84MW CHP	Unit-I	88.30	220kV CHP - Birpara Line - I	-9.40	Unit III under shutdown	
		Unit-II	86.97	220kV CHP - Birpara Line - II	-9.60		
		Unit-III	0.00	220kV CHP - Gedu	28.99		
		Unit-IV	86.20	220kV CHP - Jamjee (old) - I	81.62		
		-	-	220kV CHP - Jamjee - II (new)	81.95		
		-	-	220kV CHP - Jamjee - III (new)	79.21		
		-	-	220kV Malbase - Birpara Line	5.30		
		-	-	66kV CHP - Gedu Line	7.20		
		-	-	3x3MVA, 66/11kV TFR	0.90		
<b>Total</b>	<b>261.47</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>0.23%</b>				
4	2 x 12MW BHP (U/S)	Unit-I	7.20	220kV BHP - Sentokha Line	98.20		
		Unit-II	7.90	66kV BHP - Lobeyasa Line	27.52		
		<b>Total</b>	<b>15.10</b>	220kV BHP - Tsirang Line	-81.93		
5	2 x 20MW BHP (L/S)	Unit-I	13.50	5MVA, 66/11kV TFR	0.54		
		Unit-II	15.30	30MVA ICT, 220/66kV (HV)	13.12		
		<b>Total</b>	<b>28.80</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>-0.98%</b>		
6	2 x 63MW DHP	Unit-I	30.81	220kV DHP - Tsirang Line	61.34	220kV DHP_Dagapela Line on Standby.	
		Unit-II	30.98	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	53.48		
		-	-	5MVA, 220/33kV TFR	0.43		
<b>Total</b>	<b>61.79</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>0.03%</b>				
7	4 x 15MW KHP	Unit-I	0.00	132kV KHP - Nangkor Line	25.64	Unit I on standby	
		Unit-II	15.07	132kV KHP - Kilikhar Line	18.76		
		Unit-III	15.17	5MVA, 132/11kV TFR	0.33		
		Unit-IV	15.09	132kV Motanga - Rangia Line	31.78		
		<b>Total</b>	<b>45.33</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>1.32%</b>		
8	2 x 59MW NHP	Unit-I	25.03	132kV NHP-MHP-I	24.62		
		Unit-II	45.06	132kV NHP-MHP-II	44.19		
		<b>Total</b>	<b>70.09</b>	<b>Auxiliary Consumption &amp; Transformation Losses at Generator end</b>	<b>1.83%</b>		

Note: Generation-Load Summary (MW) for 29-Oct-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	908.26	728.80	727.45	203.86	1.35
2	Eastern Grid	502.39	186.67	185.22	291.32	1.45
<b>Total</b>		<b>1,410.65</b>	<b>915.47</b>	<b>912.67</b>	<b>495.18</b>	<b>2.80</b>

Note: Generation-Load Summary (MW) for 29-Oct-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	741.99	700.69	694.21	102.99	6.48
2	Eastern Grid	302.40	192.51	189.29	48.2	3.22
<b>Total</b>		<b>1,044.39</b>	<b>893.20</b>	<b>883.50</b>	<b>151.19</b>	<b>9.70</b>

Note: Daily Energy (MUs) and Power(MW) Statistics for 29-Oct-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	12.39	0.00	20.46	32.96	620.44	0.80

- 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.