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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 05-Nov-2024(-ve:import, +ve:export)

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	04-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	84.83	400kV THP - Siliguri Line - I	0.00	Unit-V under AMP. Unit-VI on Standby. 400kV THP_Siliguri line-I on Standby.
		Unit- II	108.27	400kV THP - Siliguri Line - II	80.07	
		Unit- III	133.53	400kV THP - Siliguri Line- IV	74.27	
		Unit- IV	140.71	400kV THP - Malbase Line - III	312.80	
		Unit- V	0.00	400kV Malbase - Siliguri Line	24.70	
		Unit- VI	0.00	-	-	
		Total	467.34	Auxiliary Consumption & Transformation Losses at Generator end	0.04%	
2	4 x 180MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Line - I	0.00	Unit-I under AMP. Unit-II on standby. 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	0.00	400kV MHP - Jigmeling Line - II	0.00	
		Unit-III	157.90	400kV MHP - Jigmeling Line - III	167.78	
		Unit-IV	165.29	400kV MHP - Jigmeling Line - IV	166.81	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	47.16	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	116.36	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	53.77	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I	77.82	
		-	-	400kV Jigmeling - Alipurduar Line - II	78.55	
		-	-	80MVA, 220/132kV ICT - I (HV)	21.73	
		-	-	80MVA, 220/132kV ICT - II (HV)	21.54	
		-	-	220kV Tsiwang - Jigmeling Line	-19.31	
-	-	132kV Gelephu - Salakati Line	14.89			
Total	323.19	Auxiliary Consumption & Transformation Losses at Generator end	0.25%			
3	4 x 84MW CHP	Unit- I	78.58	220kV CHP - Birpara Line - I	0.00	Unit-IV on Standby. 220kV CHP-Birpara Line I under shutdown.
		Unit- II	71.39	220kV CHP - Birpara Line - II	-35.09	
		Unit- III	79.21	220kV CHP - Gedu	23.96	
		Unit- IV	0.00	220kV CHP - Jamjee (old) - I	78.32	
		-	-	220kV CHP - Jamjee - II (new)	79.14	
		-	-	220kV CHP - Jamjee - III (new)	76.44	
		-	-	220kV Malbase - Birpara Line	-32.11	
		-	-	66kV CHP - Gedu Line	6.27	
		-	-	3x3MVA, 66/11kV TFR	1.12	
Total	229.18	Auxiliary Consumption & Transformation Losses at Generator end	-0.43%			
4	2 x 12MW BHP (U/S)	Unit- I	6.42	220kV BHP - Semtokha Line	86.99	
		Unit- II	7.63	66kV BHP - Lobeyasa Line	23.87	
Total	14.05	Auxiliary Consumption & Transformation Losses at Generator end	-71.63			
5	2 x 20MW BHP (L/S)	Unit- I	13.04	5MVA, 66/11kV TFR	0.38	
		Unit- II	12.55	30MVA ICT, 220/66kV (HV)	10.89	
Total	25.59	Auxiliary Consumption & Transformation Losses at Generator end	0.08%			
6	2 x 63MW DHP	Unit-I	0.00	220kV DHP - Tsiwang Line	55.12	Unit I on Standby. 220kV DHP_Dagapela Line on Standby.
		Unit-II	55.47	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	53.08	
		-	-	5MVA, 220/33kV TFR	0.30	
Total	55.47	Auxiliary Consumption & Transformation Losses at Generator end	0.09%			
7	4 x 15MW KHP	Unit- I	15.26	132kV KHP - Nangkhor Line	28.79	
		Unit-II	0.00	132kV KHP - Kilikhar Line	16.45	
		Unit- III	15.34	5MVA, 132/11kV TFR	0.22	
		Unit- IV	15.28	132kV Motanga - Rangia Line	23.09	
		Total	45.88	Auxiliary Consumption & Transformation Losses at Generator end	0.92%	
8	2 x 59MW NHP	Unit-I	14.99	132kV NHP-MHP-I	14.76	
		Unit-II	45.03	132kV NHP-MHP-II	44.62	
		Total	60.02	Auxiliary Consumption & Transformation Losses at Generator end	1.07%	

Note: Generation-Load Summary (MW) for 04-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	791.63	699.10	699.00	111.84	-0.70
2	Eastern Grid	429.09	161.66	159.78	248.12	1.88
Total		1,220.72	860.76	859.58	359.96	1.18

Note: Generation-Load Summary for 04-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	682.85	653.13	654.87	82.29	-1.74
2	Eastern Grid	268.30	186.06	190.46	29.67	-4.40
Total		951.15	839.19	845.33	111.96	-6.14

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 05-Nov-2024(-ve:import, +ve:export)							
Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	4-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	131.41	400kV THP - Siliguri Line - I	0.00	Unit-II under Shutdown. Unit-V under AMP. 400kV THP_Siliguri line-I on Standby. 400kV THP - Malbase Line - III under Shutdown.	
		Unit-II	0.00	400kV THP - Siliguri Line - II	261.79		
		Unit-III	123.64	400kV THP - Siliguri Line- IV	242.57		
		Unit-IV	140.38	400kV THP - Malbase Line - III	0.00		
		Unit-V	0.00	400kV Malbase - Siliguri Line	-222.09		
		Unit-VI	109.93	-	-		
		Total	505.36	Auxiliary Consumption & Transformation Losses at Generator end	0.20%		
2	4 x 180MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Line - I	0.00	Unit-I under AMP. Unit-II on Standby. 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	0.00	400kV MHP - Jigmeling Line - II	0.00		
		Unit-III	185.75	400kV MHP - Jigmeling Line - III	182.60		
		Unit-IV	185.30	400kV MHP - Jigmeling Line - IV	181.89		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	62.47		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	162.55		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	47.27		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - I	71.27		
		-	-	400kV Jigmeling - Alipurduar Line - II	72.00		
		-	-	80MVA, 220/132kV ICT - I (HV)	32.65		
		-	-	80MVA, 220/132kV ICT - II (HV)	32.41		
		-	-	220kV Tsirang - Jigmeling Line	-44.11		
		-	-	132kV Gelephu - Salakati Line	12.82		
Total	371.05	Auxiliary Consumption & Transformation Losses at Generator end	0.95%				
3	4 x 84MW CHP	Unit-I	78.93	220kV CHP - Birpara Line - I	0.00	Unit-IV on Standby. 220kV CHP - Birpara Line - I under Shutdown.	
		Unit-II	71.46	220kV CHP - Birpara Line - II	-50.33		
		Unit-III	79.62	220kV CHP - Gedu	41.04		
		Unit-IV	0.00	220kV CHP - Jamjee (old) - I	77.30		
		-	-	220kV CHP - Jamjee - II (new)	77.83		
		-	-	220kV CHP - Jamjee - III (new)	75.11		
		-	-	220kV Malbase - Birpara Line	-69.67		
		-	-	66kV CHP - Gedu Line	7.79		
		-	-	3x3MVA, 66/11kV TFR	1.66		
Total	230.01	Auxiliary Consumption & Transformation Losses at Generator end	-0.17%				
4	2 x 12MW BHP (U/S)	Unit-I	6.29	220kV BHP - Sentokha Line	106.27		
		Unit-II	7.42	66kV BHP - Lobeyasa Line	26.90		
		Total	13.71	220kV BHP - Tsirang Line	-94.01		
5	2 x 20MW BHP (L/S)	Unit-I	13.01	5MVA, 66/11kV TFR	0.68		
		Unit-II	12.55	30MVA ICT, 220/66kV (HV)	14.50		
		Total	25.56	Auxiliary Consumption & Transformation Losses at Generator end	-1.45%		
6	2 x 63MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	54.73	Unit I on Standby. 220kV DHP_Dagapela line on Standby.	
		Unit-II	55.08	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	53.93		
		-	-	5MVA, 220/33kV TFR	0.20		
Total	55.08	Auxiliary Consumption & Transformation Losses at Generator end	0.27%				
7	4 x 15MW KHP	Unit-I	15.28	132kV KHP - Nangkor Line	24.42	KHP Unit-II on Standby.	
		Unit-II	0.00	132kV KHP - Kilikhar Line	20.60		
		Unit-III	15.27	5MVA, 132/11kV TFR	0.31		
		Unit-IV	15.30	132kV Motanga - Rangia Line	32.02		
		Total	45.85	Auxiliary Consumption & Transformation Losses at Generator end	1.13%		
8	2 x 59MW NHP	Unit-I	14.98	132kV NHP-MHP-I	14.78		
		Unit-II	45.03	132kV NHP-MHP-II	44.66		
		Total	60.01	Auxiliary Consumption & Transformation Losses at Generator end	0.95%		

Note: Generation-Load Summary (MW) for 04-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	829.72	711.56	711.37	162.27	0.19
2	Eastern Grid	476.91	197.42	192.80	235.38	4.62
Total		1,306.63	908.98	904.17	397.65	4.81

Note: Generation-Load Summary (MW) for 04-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	678.13	683.63	684.65	59.3	-1.02
2	Eastern Grid	259.83	193.74	185.70	1.28	8.04
Total		937.96	877.37	870.35	60.58	7.02

Note: Daily Energy (MUs) and Power(MW) Statistics for 04-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	9.28	0.00	20.04	29.46	440.43	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.
 - 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.