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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 10-Oct-2024(-ve:import, +ve:export)

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	09-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	184.98	400kV THP - Siliguri Line - I	241.60	
		Unit- II	186.01	400kV THP - Siliguri Line - II	240.80	
		Unit- III	185.45	400kV THP - Siliguri Line - IV	232.31	
		Unit- IV	185.21	400kV THP - Malbase Line - III	398.61	
		Unit- V	185.64	400kV Malbase - Siliguri Line	190.39	
		Unit- VI	186.12	-	-	
		Total	1,113.41	Auxiliary Consumption & Transformation Losses at Generator end	0.01%	
2	4 x 180MW MHP	Unit-I	197.81	400kV MHP - Jigmeling Line - I	0.00	400kV MHP-JLG Line I on under maintenance. 132kV MHP_Yurmo Line- I not in Service. 400kV JLG_ALI Interim Line II on Standby.
		Unit-II	197.88	400kV MHP - Jigmeling Line - II	277.75	
		Unit-III	193.72	400kV MHP - Jigmeling Line - III	288.13	
		Unit-IV	197.56	400kV MHP - Jigmeling Line - IV	286.66	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	60.38	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	68.15	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	191.62	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I	288.00	
		-	-	400kV Jigmeling - Alipurduar Line - II	288.00	
		-	-	80MVA, 220/132kV ICT - I (HV)	26.61	
		-	-	80MVA, 220/132kV ICT - II (HV)	26.99	
		-	-	220kV Tsirang - Jigmeling Line	29.45	
		-	-	132kV Gelephu - Salakati Line	18.39	
Total	786.97	Auxiliary Consumption & Transformation Losses at Generator end	0.36%			
3	4 x 84MW CHP	Unit- I	91.48	220kV CHP - Birpara Line - I	32.78	
		Unit- II	91.26	220kV CHP - Birpara Line - II	33.61	
		Unit- III	91.29	220kV CHP - Gedu	110.47	
		Unit- IV	91.33	220kV CHP - Jamjee (old) - I	57.39	
		-	-	220kV CHP - Jamjee - II (new)	58.95	
		-	-	220kV CHP - Jamjee - III (new)	56.92	
		-	-	220kV Malbase - Birpara Line	11.29	
		-	-	66kV CHP - Gedu Line	8.52	
		-	-	3x3MVA, 66/11kV TFR	0.70	
Total	365.36	Auxiliary Consumption & Transformation Losses at Generator end	1.65%			
4	2 x 12MW BHP (U/S)	Unit- I	11.95	220kV BHP - Semtokha Line	136.00	
		Unit- II	12.14	66kV BHP - Lobeyasa Line	29.13	
		Total	24.09	220kV BHP - Tsirang Line	-100.28	
5	2 x 20MW BHP (L/S)	Unit- I	21.14	5MVA, 66/11kV TFR	0.63	
		Unit- II	20.36	30MVA ICT, 220/66kV (HV)	6.30	
		Total	41.50	Auxiliary Consumption & Transformation Losses at Generator end	0.17%	
6	2 x 63MW DHP	Unit-I	63.59	220kV DHP - Tsirang Line	126.14	220kV DHP_Dagapela Line on Standby.
		Unit-II	63.23	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	53.00	
		-	-	5MVA, 220/33kV TFR	0.20	
Total	126.82	Auxiliary Consumption & Transformation Losses at Generator end	0.38%			
7	4 x 15MW KHP	Unit- I	16.45	132kV KHP - Nangkor Line	43.24	
		Unit-II	16.55	132kV KHP - Kilikhar Line	21.86	
		Unit- III	16.61	5MVA, 132/11kV TFR	0.26	
		Unit- IV	16.46	132kV Motanga - Rangia Line	44.88	
		Total	66.07	Auxiliary Consumption & Transformation Losses at Generator end	1.07%	
8	2 x 59MW NHP	Unit-I	64.76	132kV NHP-MHP-I	64.34	
		Unit-II	64.83	132kV NHP-MHP-II	64.42	
		Total	129.59	Auxiliary Consumption & Transformation Losses at Generator end	0.64%	

Note: Generation-Load Summary (MW) for 09-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	1,671.18	658.95	652.25	982.78	6.70
2	Eastern Grid	982.63	181.19	176.84	830.89	4.35
	Total	2,653.81	840.14	829.09	1,813.67	11.05

Note: Generation-Load Summary for 09-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	1,533.92	634.05	624.75	897.38	9.30
2	Eastern Grid	576.65	183.97	181.65	395.17	2.32
	Total	2,110.57	818.02	806.40	1,292.55	11.62

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 10-Oct-2024(-ve:import, +ve:export)							
Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	9-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	185.36	400kV THP - Siliguri Line - I	223.67		
		Unit-II	185.97	400kV THP - Siliguri Line - II	232.35		
		Unit-III	185.19	400kV THP - Siliguri Line - IV	233.94		
		Unit-IV	185.95	400kV THP - Malbase Line - III	425.78		
		Unit-V	186.24	400kV Malbase - Siliguri Line	174.92		
		Unit-VI	186.24	-	-		
		Total	1,114.95	Auxiliary Consumption & Transformation Losses at Generator end	-0.07%		
2	4 x 180MW MHP	Unit-I	197.65	400kV MHP - Jigmeling Line - I	0.00	400kV MHP-JLG Line I under maintenance. 132kV MHP_Yurmo Line- I not in Service. 400kV JLG_ALI Interim Line II on Standby.	
		Unit-II	197.57	400kV MHP - Jigmeling Line - II	278.54		
		Unit-III	192.46	400kV MHP - Jigmeling Line - III	289.16		
		Unit-IV	196.78	400kV MHP - Jigmeling Line - IV	287.22		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	60.46		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	106.18		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	182.55		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - I	272.73		
		-	-	400kV Jigmeling - Alipurduar Line - II	274.18		
		-	-	80MVA, 220/132kV ICT - I (HV)	37.22		
		-	-	80MVA, 220/132kV ICT - II (HV)	36.89		
		-	-	220kV Tsirang - Jigmeling Line	21.73		
		-	-	132kV Gelephu - Salakati Line	18.61		
		Total	784.46	Auxiliary Consumption & Transformation Losses at Generator end	-0.27%		
		3	4 x 84MW CHP	Unit-I	91.48		
Unit-II	91.26			220kV CHP - Birpara Line - II	35.17		
Unit-III	91.29			220kV CHP - Gedu	89.65		
Unit-IV	91.33			220kV CHP - Jamjee (old) - I	63.96		
-	-			220kV CHP - Jamjee - II (new)	65.65		
-	-			220kV CHP - Jamjee - III (new)	63.35		
-	-			220kV Malbase - Birpara Line	30.40		
-	-			66kV CHP - Gedu Line	9.15		
-	-			3x3MVA, 66/11kV TFR	0.96		
Total	365.36			Auxiliary Consumption & Transformation Losses at Generator end	0.71%		
4	2 x 12MW BHP (U/S)	Unit-I	11.94	220kV BHP - Sentsokha Line	134.00		
		Unit-II	12.15	66kV BHP - Lobeyasa Line	30.00		
		Total	24.09	220kV BHP - Tsirang Line	-99.37		
5	2 x 20MW BHP (L/S)	Unit-I	21.10	5MVA, 66/11kV TFR	0.57		
		Unit-II	20.32	30MVA ICT, 220/66kV (HV)	7.60		
		Total	41.42	Auxiliary Consumption & Transformation Losses at Generator end	0.47%		
6	2 x 63MW DHP	Unit-I	63.57	220kV DHP - Tsirang Line	126.22	220kV DHP_Dagapela Line on Standby.	
		Unit-II	63.17	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	53.35		
		-	-	5MVA, 220/33kV TFR	0.30		
Total	126.74	Auxiliary Consumption & Transformation Losses at Generator end	0.17%				
7	4 x 15MW KHP	Unit-I	16.45	132kV KHP - Nangkor Line	40.85		
		Unit-II	16.45	132kV KHP - Kilikhar Line	24.21		
		Unit-III	16.58	5MVA, 132/11kV TFR	0.38		
		Unit-IV	16.57	132kV Motanga - Rangia Line	49.15		
Total	66.05	Auxiliary Consumption & Transformation Losses at Generator end	0.92%				
8	2 x 59MW NHP	Unit-I	64.84	132kV NHP-MHP-I	64.36		
		Unit-II	64.89	132kV NHP-MHP-II	64.43		
		Total	129.73	Auxiliary Consumption & Transformation Losses at Generator end	0.72%		

Note: Generation-Load Summary (MW) for 09-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	1,672.56	685.51	683.17	965.32	2.34
2	Eastern Grid	980.24	204.75	205.33	797.22	-0.58
	Total	2,652.80	890.26	888.50	1,762.54	1.76

Note: Generation-Load Summary (MW) for 09-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	1,481.97	675.95	666.27	807.97	9.68
2	Eastern Grid	527.70	192.27	190.44	333.48	1.83
	Total	2,009.67	868.22	856.71	1,141.45	11.51

Note: Daily Energy (MUs) and Power(MW) Statistics for 09-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	41.19	0.00	20.05	63.49	1,852.17	2.28

- 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.