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

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	03-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	185.91	400kV THP - Siliguri Line - I	237.52	
		Unit- II	185.48	400kV THP - Siliguri Line - II	235.67	
		Unit- III	185.43	400kV THP - Siliguri Line- IV	227.24	
		Unit- IV	185.71	400kV THP - Malbase Line - III	417.13	
		Unit- V	184.95	400kV Malbase - Siliguri Line	182.54	
		Unit- VI	185.93	-	-	
		Total	1,113.41	Auxiliary Consumption & Transformation Losses at Generator end	-0.37%	
2	4 x 180MW MHP	Unit-I	197.73	400kV MHP - Jigmeling Line - I	0.00	400kV MHP-JLG Line I on Standby. 132kV MHP_Yurmoo Line- I not in Service. 400kV JLG_ALI Interim Line II on Standby.
		Unit-II	197.83	400kV MHP - Jigmeling Line - II	278.54	
		Unit-III	194.55	400kV MHP - Jigmeling Line - III	289.16	
		Unit-IV	198.08	400kV MHP - Jigmeling Line - IV	287.22	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	60.45	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	78.18	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	192.14	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I	287.99	
		-	-	400kV Jigmeling - Alipurduar Line - II	286.92	
		-	-	80MVA, 220/132kV ICT - I (HV)	30.00	
		-	-	80MVA, 220/132kV ICT - II (HV)	29.77	
		-	-	220kV Tsirang - Jigmeling Line	34.67	
		-	-	132kV Gelephu - Salakati Line	28.93	
Total	788.19	Auxiliary Consumption & Transformation Losses at Generator end	0.21%			
3	4 x 84MW CHP	Unit- I	91.34	220kV CHP - Birpara Line - I	30.10	
		Unit- II	91.23	220kV CHP - Birpara Line - II	30.00	
		Unit- III	91.18	220kV CHP - Gedu	113.88	
		Unit- IV	91.41	220kV CHP - Jamjee (old) - I	60.80	
		-	-	220kV CHP - Jamjee - II (new)	61.64	
		-	-	220kV CHP - Jamjee - III (new)	59.40	
		-	-	220kV Malbase - Birpara Line	0.48	
		-	-	66kV CHP - Gedu Line	9.44	
-	-	3x3MVA, 66/11kV TFR	0.67			
Total	365.16	Auxiliary Consumption & Transformation Losses at Generator end	-0.21%			
4	2 x 12MW BHP (U/S)	Unit- I	11.57	220kV BHP - Semtokha Line	123.30	
		Unit- II	12.00	66kV BHP - Lobeyasa Line	28.32	
		Total	23.57	220kV BHP - Tsirang Line	-87.17	
5	2 x 20MW BHP (L/S)	Unit- I	20.35	5MVA, 66/11kV TFR	0.40	
		Unit- II	20.09	30MVA ICT, 220/66kV (HV)	5.67	
		Total	40.44	Auxiliary Consumption & Transformation Losses at Generator end	-1.31%	
6	2 x 63MW DHP	Unit-I	63.58	220kV DHP - Tsirang Line	126.34	220kV DHP_Dagapela Line on Standby.
		Unit-II	63.21	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	52.96	
		-	-	5MVA, 220/33kV TFR	0.30	
Total	126.79	Auxiliary Consumption & Transformation Losses at Generator end	0.12%			
7	4 x 15MW KHP	Unit- I	16.22	132kV KHP - Nangkor Line	43.40	
		Unit-II	16.57	132kV KHP - Kilikhar Line	21.82	
		Unit- III	16.41	5MVA, 132/11kV TFR	0.26	
		Unit- IV	16.51	132kV Motanga - Rangia Line	35.98	
		Total	65.71	Auxiliary Consumption & Transformation Losses at Generator end	0.35%	
8	2 x 59MW NHP	Unit-I	64.86	132kV NHP-MHP-I	64.42	
		Unit-II	64.92	132kV NHP-MHP-II	64.40	
		Total	129.78	Auxiliary Consumption & Transformation Losses at Generator end	0.74%	

Note: Generation-Load Summary (MW) for 03-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	1,669.37	691.15	696.76	943.55	-5.61
2	Eastern Grid	983.68	186.39	183.56	831.96	2.83
	Total	2,653.05	877.54	880.32	1,775.51	-2.78

Note: Generation-Load Summary for 03-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	1,533.56	620.59	614.55	902.07	6.04
2	Eastern Grid	536.33	193.54	191.65	353.69	1.89
	Total	2,069.89	814.13	806.20	1,255.76	7.93

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 04-Oct-2024(-ve:import, +ve:export)							
Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	3-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	185.70	400kV THP - Siliguri Line - I	228.30		
		Unit-II	185.86	400kV THP - Siliguri Line - II	227.62		
		Unit-III	185.27	400kV THP - Siliguri Line - IV	219.52		
		Unit-IV	186.03	400kV THP - Malbase Line - III	439.21		
		Unit-V	184.99	400kV Malbase - Siliguri Line	167.30		
		Unit-VI	185.66	-	-		
		Total	1,113.51	Auxiliary Consumption & Transformation Losses at Generator end	-0.10%		
2	4 x 180MW MHP	Unit-I	197.86	400kV MHP - Jigmeling Line - I	0.00	400kV MHP-JLG Line I on Standby. 132kV MHP_Yurmo Line- I not in Service. 400kV JLG_ALI Interim Line II on Standby.	
		Unit-II	197.81	400kV MHP - Jigmeling Line - II	277.45		
		Unit-III	194.67	400kV MHP - Jigmeling Line - III	287.91		
		Unit-IV	198.23	400kV MHP - Jigmeling Line - IV	286.35		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	62.77		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	101.37		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	186.18		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - I	276.36		
		-	-	400kV Jigmeling - Alipurduar Line - II	277.09		
		-	-	80MVA, 220/132kV ICT - I (HV)	33.70		
		-	-	80MVA, 220/132kV ICT - II (HV)	33.53		
		-	-	220kV Tsirang - Jigmeling Line	19.57		
		-	-	132kV Gelephu - Salakati Line	20.15		
Total	788.57	Auxiliary Consumption & Transformation Losses at Generator end	0.32%				
3	4 x 84MW CHP	Unit-I	91.46	220kV CHP - Birpara Line - I	33.62		
		Unit-II	91.05	220kV CHP - Birpara Line - II	33.59		
		Unit-III	91.47	220kV CHP - Gedu	101.90		
		Unit-IV	91.42	220kV CHP - Jamjee (old) - I	62.34		
		-	-	220kV CHP - Jamjee - II (new)	63.04		
		-	-	220kV CHP - Jamjee - III (new)	60.74		
		-	-	220kV Malbase - Birpara Line	18.49		
		-	-	66kV CHP - Gedu Line	9.60		
		-	-	3x3MVA, 66/11kV TFR	1.05		
Total	365.40	Auxiliary Consumption & Transformation Losses at Generator end	-0.13%				
4	2 x 12MW BHP (U/S)	Unit-I	11.92	220kV BHP - Sentsokha Line	136.13		
		Unit-II	12.11	66kV BHP - Lobeyasa Line	30.39		
		Total	24.03	220kV BHP - Tsirang Line	-101.44		
5	2 x 20MW BHP (L/S)	Unit-I	20.88	5MVA, 66/11kV TFR	0.60		
		Unit-II	20.09	30MVA ICT, 220/66kV (HV)	7.48		
		Total	40.97	Auxiliary Consumption & Transformation Losses at Generator end	-1.05%		
6	2 x 63MW DHP	Unit-I	63.61	220kV DHP - Tsirang Line	126.29	220kV DHP_Dagapela Line on Standby.	
		Unit-II	63.27	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	53.78		
		-	-	5MVA, 220/33kV TFR	0.58		
Total	126.88	Auxiliary Consumption & Transformation Losses at Generator end	0.01%				
7	4 x 15MW KHP	Unit-I	16.42	132kV KHP - Nangkor Line	40.90		
		Unit-II	16.57	132kV KHP - Kilikhar Line	24.17		
		Unit-III	16.51	5MVA, 132/11kV TFR	0.37		
		Unit-IV	16.52	132kV Motanga - Rangia Line	44.62		
Total	66.02	Auxiliary Consumption & Transformation Losses at Generator end	0.88%				
8	2 x 59MW NHP	Unit-I	64.63	132kV NHP-MHP-I	64.25		
		Unit-II	64.73	132kV NHP-MHP-II	64.18		
		Total	129.36	Auxiliary Consumption & Transformation Losses at Generator end	0.72%		

Note: Generation-Load Summary (MW) for 03-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	1,670.79	722.78	725.07	928.44	-2.29
2	Eastern Grid	983.95	199.12	195.09	804.40	4.03
	Total	2,654.74	921.90	920.16	1,732.84	1.74

Note: Generation-Load Summary (MW) for 03-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	1,449.89	636.06	630.65	810.83	5.41
2	Eastern Grid	521.71	196	185.34	328.71	10.66
	Total	1,971.60	832.06	815.99	1,139.54	16.07

Note: Daily Energy (MUs) and Power(MW) Statistics for 03-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)
	40.57	0.00	20.79	63.66	1,836.06	2.33

- 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.