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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-Sep-2024(-ve:import, +ve:export)

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	06-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	185.11	400kV THP - Siliguri Line - I	233.54	
		Unit- II	185.98	400kV THP - Siliguri Line - II	231.65	
		Unit- III	185.61	400kV THP - Siliguri Line- IV	222.91	
		Unit- IV	184.90	400kV THP - Malbase Line - III	427.43	
		Unit- V	184.63	400kV Malbase - Siliguri Line	173.86	
		Unit- VI	186.10	-	-	
		Total	1,112.33	Auxiliary Consumption & Transformation Losses at Generator end	-0.29%	
2	4 x 180MW MHP	Unit-I	197.73	400kV MHP - Jigmeling Line - I	285.09	400kV MHP-JLG Line III on Standby. 132kV MHP_Yurmoo Line- I not in Service. 400kV JLG_ALI Interim Line I on Standby.
		Unit-II	197.71	400kV MHP - Jigmeling Line - II	284.98	
		Unit-III	195.02	400kV MHP - Jigmeling Line - III	0.00	
		Unit-IV	197.67	400kV MHP - Jigmeling Line - IV	278.45	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	62.48	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	79.64	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	190.88	
		-	-	400kV Jigmeling - Alipurduar Line - I	286.04	
		-	-	400kV Jigmeling - Alipurduar Line - II	284.92	
		-	-	80MVA, 220/132kV ICT - I (HV)	35.01	
		-	-	80MVA, 220/132kV ICT - II (HV)	34.59	
		-	-	220kV Tsirang - Jigmeling Line	52.12	
		-	-	132kV Gelephu - Salakati Line	30.18	
Total	788.13	Auxiliary Consumption & Transformation Losses at Generator end	0.54%			
3	4 x 84MW CHP	Unit- I	90.88	220kV CHP - Birpara Line - I	32.02	
		Unit- II	91.20	220kV CHP - Birpara Line - II	31.68	
		Unit- III	91.42	220kV CHP - Gedu	104.18	
		Unit- IV	91.42	220kV CHP - Jamjee (old) - I	62.88	
		-	-	220kV CHP - Jamjee - II (new)	63.21	
		-	-	220kV CHP - Jamjee - III (new)	61.16	
		-	-	220kV Malbase - Birpara Line	14.74	
		-	-	66kV CHP - Gedu Line	9.36	
Total	364.92	Auxiliary Consumption & Transformation Losses at Generator end	-0.10%			
4	2 x 12MW BHP (U/S)	Unit- I	11.96	220kV BHP - Semtokha Line	111.50	
		Unit- II	12.24	66kV BHP - Lobeyasa Line	25.08	
		Total	24.20	220kV BHP - Tsirang Line	-71.39	
5	2 x 20MW BHP (L/S)	Unit- I	20.59	5MVA, 66/11kV TFR	0.30	
		Unit- II	20.79	30MVA ICT, 220/66kV (HV)	1.76	
		Total	41.38	Auxiliary Consumption & Transformation Losses at Generator end	0.14%	
6	2 x 63MW DHP	Unit-I	63.61	220kV DHP - Tsirang Line	126.32	220kV DHP_Dagapela Line on Standby.
		Unit-II	63.22	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	54.17	
		-	-	5MVA, 220/33kV TFR	0.20	
Total	126.83	Auxiliary Consumption & Transformation Losses at Generator end	0.24%			
7	4 x 15MW KHP	Unit- I	16.47	132kV KHP - Nangkor Line	42.42	
		Unit-II	16.55	132kV KHP - Kilikhar Line	22.78	
		Unit- III	16.56	5MVA, 132/11kV TFR	0.31	
		Unit- IV	16.67	132kV Motanga - Rangia Line	54.28	
		Total	66.25	Auxiliary Consumption & Transformation Losses at Generator end	1.12%	
8	2 x 59MW NHP	Unit-I	64.01	132kV NHP-MHP-I	63.54	
		Unit-II	64.02	132kV NHP-MHP-II	63.55	
		Total	128.03	Auxiliary Consumption & Transformation Losses at Generator end	0.73%	

Note: Generation-Load Summary (MW) for 06-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	1,669.66	677.14	680.31	940.40	-3.17
2	Eastern Grid	982.41	188.23	182.33	846.30	5.90
	Total	2,652.07	865.37	862.64	1,786.70	2.73

Note: Generation-Load Summary for 06-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	1,445.76	566.15	559.18	868.12	6.97
2	Eastern Grid	707.62	183.69	179.54	535.42	4.15
	Total	2,153.38	749.84	738.72	1,403.54	11.12

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 30-Sep-2024(-ve:import, +ve:export)							
Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	6-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	185.00	400kV THP - Siliguri Line - I	373.55	400kV THP-SIL line IV under breakdown & 400kV MAL-SIL line under shutdown.	
		Unit-II	185.86	400kV THP - Siliguri Line - II	371.70		
		Unit-III	185.88	400kV THP - Siliguri Line- IV	0.00		
		Unit-IV	186.52	400kV THP - Malbase Line - III	369.92		
		Unit-V	184.74	400kV Malbase - Siliguri Line	0.00		
		Unit-VI	186.78	-	-		
		Total	1,114.78	Auxiliary Consumption & Transformation Losses at Generator end	-0.03%		
2	4 x 180MW MHP	Unit-I	197.77	400kV MHP - Jigmeling Line - I	284.63	400kV MHP-JLG Line III on Standby. 132kV MHP_Yurmo Line- I not in Service. 400kV JLG_ALI Interim Line I on Standby.	
		Unit-II	197.73	400kV MHP - Jigmeling Line - II	283.90		
		Unit-III	195.31	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	197.80	400kV MHP - Jigmeling Line - IV	277.55		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	60.98		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	116.00		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	181.09		
		-	-	400kV Jigmeling - Alipurduar Line - I	270.55		
		-	-	400kV Jigmeling - Alipurduar Line - II	269.82		
		-	-	80MVA, 220/132kV ICT - I (HV)	43.90		
		-	-	80MVA, 220/132kV ICT - II (HV)	43.48		
		-	-	220kV Tsirang - Jigmeling Line	25.31		
		-	-	132kV Gelephu - Salakati Line	25.55		
Total	788.61	Auxiliary Consumption & Transformation Losses at Generator end	1.11%				
3	4 x 84MW CHP	Unit-I	91.42	220kV CHP - Birpara Line - I	43.43		
		Unit-II	91.56	220kV CHP - Birpara Line - II	42.83		
		Unit-III	91.56	220kV CHP - Gedu	57.76		
		Unit-IV	91.34	220kV CHP - Jamjee (old) - I	71.18		
		-	-	220kV CHP - Jamjee - II (new)	71.72		
		-	-	220kV CHP - Jamjee - III (new)	69.26		
		-	-	220kV Malbase - Birpara Line	69.19		
		-	-	66kV CHP - Gedu Line	8.65		
		-	-	3x3MVA, 66/11kV TFR	0.95		
		Total	365.88	Auxiliary Consumption & Transformation Losses at Generator end	0.03%		
4	2 x 12MW BHP (U/S)	Unit-I	11.98	220kV BHP - Sentsokha Line	104.89		
		Unit-II	12.09	66kV BHP - Lobeyasa Line	28.08		
		Total	24.07	220kV BHP - Tsirang Line	-69.45		
5	2 x 20MW BHP (L/S)	Unit-I	20.53	5MVA, 66/11kV TFR	0.68		
		Unit-II	20.78	30MVA ICT, 220/66kV (HV)	5.25		
		Total	41.31	Auxiliary Consumption & Transformation Losses at Generator end	1.80%		
6	2 x 63MW DHP	Unit-I	49.36	220kV DHP - Tsirang Line	98.85	220kV DHP_Dagapela Line on Standby.	
		Unit-II	50.01	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	54.86		
		-	-	5MVA, 220/33kV TFR	0.20		
Total	99.37	Auxiliary Consumption & Transformation Losses at Generator end	0.32%				
7	4 x 15MW KHP	Unit-I	16.49	132kV KHP - Nangkor Line	51.43		
		Unit-II	16.58	132kV KHP - Kilikhar Line	13.57		
		Unit-III	16.61	5MVA, 132/11kV TFR	0.39		
		Unit-IV	16.54	132kV Motanga - Rangia Line	59.98		
Total	66.22	Auxiliary Consumption & Transformation Losses at Generator end	1.25%				
8	2 x 59MW NHP	Unit-I	63.94	132kV NHP-MHP-I	63.58		
		Unit-II	63.97	132kV NHP-MHP-II	63.64		
		Total	127.91	Auxiliary Consumption & Transformation Losses at Generator end	0.54%		

Note: Generation-Load Summary (MW) for 06-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	1,645.41	719.40	718.19	900.70	1.21
2	Eastern Grid	982.74	201.06	190.77	806.99	10.29
	Total	2,628.15	920.46	908.96	1,707.69	11.50

Note: Generation-Load Summary (MW) for 06-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	1,444.00	622.98	615.52	816.16	7.46
2	Eastern Grid	668.51	186.88	183.77	486.49	3.11
	Total	2,112.51	809.86	799.29	1,302.65	10.57

Note: Daily Energy (MUs) and Power(MW) Statistics for 06-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	40.67	0.00	20.86	63.04	1,834.69	1.75

- 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.