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

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	09-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	184.98	400kV THP - Siliguri Line - I	230.20	
		Unit- II	185.47	400kV THP - Siliguri Line - II	228.09	
		Unit- III	185.72	400kV THP - Siliguri Line - IV	219.45	
		Unit- IV	184.88	400kV THP - Malbase Line - III	437.40	
		Unit- V	186.19	400kV Malbase - Siliguri Line	170.18	
		Unit- VI	185.71	-	-	
		Total	1,112.95	Auxiliary Consumption & Transformation Losses at Generator end	-0.20%	
2	4 x 180MW MHP	Unit-I	197.82	400kV MHP - Jigmeling Line - I	285.83	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	197.80	400kV MHP - Jigmeling Line - II	285.06	
		Unit-III	194.84	400kV MHP - Jigmeling Line - III	0.00	
		Unit-IV	197.63	400kV MHP - Jigmeling Line - IV	278.29	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	62.10	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	121.82	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	180.45	
		-	-	400kV Jigmeling - Alipurduar Line - I	270.55	
		-	-	400kV Jigmeling - Alipurduar Line - II	269.82	
		-	-	80MVA, 220/132kV ICT - I (HV)	33.96	
		-	-	80MVA, 220/132kV ICT - II (HV)	33.66	
		-	-	220kV Tsirang - Jigmeling Line	0.08	
		-	-	132kV Gelephu - Salakati Line	25.39	
Total	788.09	Auxiliary Consumption & Transformation Losses at Generator end	0.48%			
3	4 x 84MW CHP	Unit- I	91.13	220kV CHP - Birpara Line - I	27.88	
		Unit- II	91.25	220kV CHP - Birpara Line - II	27.56	
		Unit- III	91.34	220kV CHP - Gedu	96.65	
		Unit- IV	91.26	220kV CHP - Jamjee (old) - I	67.93	
		-	-	220kV CHP - Jamjee - II (new)	68.78	
		-	-	220kV CHP - Jamjee - III (new)	66.13	
		-	-	220kV Malbase - Birpara Line	13.35	
		-	-	66kV CHP - Gedu Line	9.63	
Total	364.98	Auxiliary Consumption & Transformation Losses at Generator end	-0.07%			
4	2 x 12MW BHP (U/S)	Unit- I	10.60	220kV BHP - Semtokha Line	97.80	
		Unit- II	9.76	66kV BHP - Lobeyasa Line	25.21	
		Total	20.36	220kV BHP - Tsirang Line	-67.53	
5	2 x 20MW BHP (L/S)	Unit- I	18.07	5MVA, 66/11kV TFR	0.45	
		Unit- II	17.49	30MVA ICT, 220/66kV (HV)	5.97	
		Total	35.56	Auxiliary Consumption & Transformation Losses at Generator end	-0.02%	
6	2 x 63MW DHP	Unit-I	36.28	220kV DHP - Tsirang Line	70.84	220kV DHP_Dagapela Line on Standby.
		Unit-II	35.00	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	53.97	
		-	-	5MVA, 220/33kV TFR	0.46	
Total	71.28	Auxiliary Consumption & Transformation Losses at Generator end	-0.03%			
7	4 x 15MW KHP	Unit- I	16.53	132kV KHP - Nangkor Line	42.25	
		Unit-II	16.57	132kV KHP - Kilikhar Line	22.83	
		Unit- III	16.56	5MVA, 132/11kV TFR	0.32	
		Unit- IV	16.60	132kV Motanga - Rangia Line	52.43	
		Total	66.26	Auxiliary Consumption & Transformation Losses at Generator end	1.30%	
8	2 x 59MW NHP	Unit-I	63.99	132kV NHP-MHP-I	63.56	
		Unit-II	63.90	132kV NHP-MHP-II	63.45	
		Total	127.89	Auxiliary Consumption & Transformation Losses at Generator end	0.69%	

Note: Generation-Load Summary (MW) for 09-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	1,605.13	688.34	690.82	916.71	-2.48
2	Eastern Grid	982.24	183.68	178.12	798.64	5.56
	Total	2,587.37	872.02	868.94	1,715.35	3.08

Note: Generation-Load Summary for 09-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	1,375.69	624.48	603.05	719.02	21.43
2	Eastern Grid	648.24	184.16	180.42	496.27	3.74
	Total	2,023.93	808.64	783.47	1,215.29	25.17

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 10-Sep-2024(-ve:import, +ve:export)							
Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	9-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	185.10	400kV THP - Siliguri Line - I	220.05		
		Unit-II	184.74	400kV THP - Siliguri Line - II	218.58		
		Unit-III	185.29	400kV THP - Siliguri Line - IV	210.36		
		Unit-IV	186.72	400kV THP - Malbase Line - III	467.35		
		Unit-V	185.46	400kV Malbase - Siliguri Line	151.56		
		Unit-VI	185.23	-	-		
		Total	1,112.54	Auxiliary Consumption & Transformation Losses at Generator end	-0.34%		
2	4 x 180MW MHP	Unit-I	197.91	400kV MHP - Jigmeling Line - I	285.21	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	197.66	400kV MHP - Jigmeling Line - II	284.76		
		Unit-III	195.43	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	197.71	400kV MHP - Jigmeling Line - IV	278.12		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	64.19		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	150.91		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	173.09		
		-	-	400kV Jigmeling - Alipurduar Line - I	258.91		
		-	-	400kV Jigmeling - Alipurduar Line - II	257.46		
		-	-	80MVA, 220/132kV ICT - I (HV)	45.88		
		-	-	80MVA, 220/132kV ICT - II (HV)	45.54		
		-	-	220kV Tsirang - Jigmeling Line	-4.67		
		-	-	132kV Gelephu - Salakati Line	25.37		
Total	788.71	Auxiliary Consumption & Transformation Losses at Generator end	0.44%				
3	4 x 84MW CHP	Unit-I	91.48	220kV CHP - Birpara Line - I	29.94		
		Unit-II	91.07	220kV CHP - Birpara Line - II	29.46		
		Unit-III	91.66	220kV CHP - Gedu	77.13		
		Unit-IV	91.65	220kV CHP - Jamjee (old) - I	73.40		
		-	-	220kV CHP - Jamjee - II (new)	74.23		
		-	-	220kV CHP - Jamjee - III (new)	71.43		
		-	-	220kV Malbase - Birpara Line	31.55		
		-	-	66kV CHP - Gedu Line	9.19		
		-	-	3x3MVA, 66/11kV TFR	-		
Total	365.80	Auxiliary Consumption & Transformation Losses at Generator end	0.28%				
4	2 x 12MW BHP (U/S)	Unit-I	9.98	220kV BHP - Sentokha Line	101.43		
		Unit-II	10.76	66kV BHP - Lobeyasa Line	28.23		
		Total	20.74	220kV BHP - Tsirang Line	-70.37		
5	2 x 20MW BHP (L/S)	Unit-I	20.03	5MVA, 66/11kV TFR	0.68		
		Unit-II	19.06	30MVA ICT, 220/66kV (HV)	8.68		
		Total	39.09	Auxiliary Consumption & Transformation Losses at Generator end	-0.23%		
6	2 x 63MW DHP	Unit-I	34.31	220kV DHP - Tsirang Line	69.85	220kV DHP_Dagapela Line on Standby.	
		Unit-II	36.02	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	54.84		
		-	-	5MVA, 220/33kV TFR	0.20		
Total	70.33	Auxiliary Consumption & Transformation Losses at Generator end	0.40%				
7	4 x 15MW KHP	Unit-I	16.51	132kV KHP - Nangkor Line	38.73		
		Unit-II	16.50	132kV KHP - Kilikhar Line	26.35		
		Unit-III	16.60	5MVA, 132/11kV TFR	0.39		
		Unit-IV	16.64	132kV Motanga - Rangia Line	57.47		
Total	66.25	Auxiliary Consumption & Transformation Losses at Generator end	1.18%				
8	2 x 59MW NHP	Unit-I	64.03	132kV NHP-MHP-I	63.52		
		Unit-II	63.99	132kV NHP-MHP-II	63.54		
		Total	128.02	Auxiliary Consumption & Transformation Losses at Generator end	0.75%		

Note: Generation-Load Summary (MW) for 09-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	1,608.50	721.67	724.31	891.50	-2.64
2	Eastern Grid	982.98	206.01	200.78	772.30	5.23
	Total	2,591.48	927.68	925.09	1,663.80	2.59

Note: Generation-Load Summary (MW) for 09-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	1,409.17	638.37	631.46	757.8	6.91
2	Eastern Grid	561.41	166.77	164.32	407.64	2.45
	Total	1,970.58	805.14	795.78	1,165.44	9.36

Note: Daily Energy (MUs) and Power(MW) Statistics for 09-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	39.74	0.00	20.87	62.11	1,786.12	1.64

- 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.