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

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	05-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	139.68	400kV THP - Siliguri Line - I	214.51	
		Unit- II	185.42	400kV THP - Siliguri Line - II	212.68	
		Unit- III	131.01	400kV THP - Siliguri Line - IV	203.83	
		Unit- IV	186.54	400kV THP - Malbase Line - III	382.53	
		Unit- V	185.63	400kV Malbase - Siliguri Line	161.60	
		Unit- VI	186.28	-	-	
		Total	1,014.56	Auxiliary Consumption & Transformation Losses at Generator end	0.10%	
2	4 x 180MW MHP	Unit-I	197.86	400kV MHP - Jigmeling Line - I	285.85	400kV MHP-JLG Line III on Standby. 132kV MHP_Yurmoo Line- I not in Service. 400kV JLG_ALI Direct Line I & 400kV JLG_ALI Interim Line I on Standby.
		Unit-II	197.78	400kV MHP - Jigmeling Line - II	285.23	
		Unit-III	194.68	400kV MHP - Jigmeling Line - III	0.00	
		Unit-IV	197.74	400kV MHP - Jigmeling Line - IV	278.60	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	60.98	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	105.75	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	294.55	
		-	-	400kV Jigmeling - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II	440.73	
		-	-	80MVA, 220/132kV ICT - I (HV)	39.62	
		-	-	80MVA, 220/132kV ICT - II (HV)	39.31	
		-	-	220kV Tsirang - Jigmeling Line	27.45	
		-	-	132kV Gelephu - Salakati Line	40.50	
Total	788.06	Auxiliary Consumption & Transformation Losses at Generator end	0.57%			
3	4 x 84MW CHP	Unit- I	91.47	220kV CHP - Birpara Line - I	39.80	
		Unit- II	91.47	220kV CHP - Birpara Line - II	39.22	
		Unit- III	91.41	220kV CHP - Gedu	121.32	
		Unit- IV	91.69	220kV CHP - Jamjee (old) - I	52.20	
		-	-	220kV CHP - Jamjee - II (new)	52.71	
		-	-	220kV CHP - Jamjee - III (new)	51.07	
		-	-	220kV Malbase - Birpara Line	13.77	
		-	-	66kV CHP - Gedu Line	8.80	
Total	366.04	Auxiliary Consumption & Transformation Losses at Generator end	0.03%			
4	2 x 12MW BHP (U/S)	Unit- I	11.81	220kV BHP - Semtokha Line	132.64	
		Unit- II	12.19	66kV BHP - Lobeyasa Line	27.24	
		Total	24.00	220kV BHP - Tsirang Line	-94.44	
5	2 x 20MW BHP (L/S)	Unit- I	20.44	5MVA, 66/11kV TFR	0.41	
		Unit- II	20.81	30MVA ICT, 220/66kV (HV)	4.16	
		Total	41.25	Auxiliary Consumption & Transformation Losses at Generator end	-0.92%	
6	2 x 63MW DHP	Unit-I	63.37	220kV DHP - Tsirang Line	125.76	220kV DHP_Dagapela Line on Standby.
		Unit-II	62.94	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	53.75	
		-	-	5MVA, 220/33kV TFR	0.20	
Total	126.31	Auxiliary Consumption & Transformation Losses at Generator end	0.28%			
7	4 x 15MW KHP	Unit- I	16.49	132kV KHP - Nangkor Line	42.64	
		Unit-II	16.55	132kV KHP - Kilikhar Line	22.50	
		Unit- III	16.66	5MVA, 132/11kV TFR	0.34	
		Unit- IV	16.46	132kV Motanga - Rangia Line	58.92	
		Total	66.16	Auxiliary Consumption & Transformation Losses at Generator end	1.03%	
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 05-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	1,572.16	659.30	658.42	885.41	0.88
2	Eastern Grid	982.25	175.00	168.89	834.70	6.11
	Total	2,554.41	834.30	827.31	1,720.11	6.99

Note: Generation-Load Summary for 05-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	1,508.79	599.78	582.63	980.19	17.15
2	Eastern Grid	728.25	176.55	171.33	549.92	5.22
	Total	2,237.04	776.33	753.96	1,530.11	22.37

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 06-Sep-2024(-ve:import, +ve:export)

Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	5-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	186.00	400kV THP - Siliguri Line - I	227.24		
		Unit-II	185.42	400kV THP - Siliguri Line - II	227.00		
		Unit-III	186.53	400kV THP - Siliguri Line - IV	213.87		
		Unit-IV	185.58	400kV THP - Malbase Line - III	446.04		
		Unit-V	185.00	400kV Malbase - Siliguri Line	163.68		
		Unit-VI	185.87	-	-		
		Total	1,114.40	Auxiliary Consumption & Transformation Losses at Generator end	0.02%		
2	4 x 180MW MHP	Unit-I	197.79	400kV MHP - Jigmeling Line - I	284.54	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	197.91	400kV MHP - Jigmeling Line - II	284.77		
		Unit-III	195.12	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	197.79	400kV MHP - Jigmeling Line - IV	276.75		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	60.98		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	100.36		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	185.07		
		-	-	400kV Jigmeling - Alipurduar Line - I	276.07		
		-	-	400kV Jigmeling - Alipurduar Line - II	276.56		
		-	-	80MVA, 220/132kV ICT - I (HV)	41.44		
		-	-	80MVA, 220/132kV ICT - II (HV)	41.09		
		-	-	220kV Tsirang - Jigmeling Line	35.47		
		-	-	132kV Gelephu - Salakati Line	28.23		
Total	788.61	Auxiliary Consumption & Transformation Losses at Generator end	1.10%				
3	4 x 84MW CHP	Unit-I	91.36	220kV CHP - Birpara Line - I	34.27		
		Unit-II	91.25	220kV CHP - Birpara Line - II	33.62		
		Unit-III	91.20	220kV CHP - Gedu	87.13		
		Unit-IV	91.51	220kV CHP - Jamjee (old) - I	67.21		
		-	-	220kV CHP - Jamjee - II (new)	67.73		
		-	-	220kV CHP - Jamjee - III (new)	65.43		
		-	-	220kV Malbase - Birpara Line	30.36		
		-	-	66kV CHP - Gedu Line	8.28		
		-	-	3x3MVA, 66/11kV TFR	1.03		
		Total	365.32	Auxiliary Consumption & Transformation Losses at Generator end	0.17%		
4	2 x 12MW BHP (U/S)	Unit-I	12.00	220kV BHP - Sentsokha Line	132.00		
		Unit-II	12.00	66kV BHP - Lobeyasa Line	27.24		
		Total	24.00	220kV BHP - Tsirang Line	-94.54		
5	2 x 20MW BHP (L/S)	Unit-I	20.50	5MVA, 66/11kV TFR	0.41		
		Unit-II	21.00	30MVA ICT, 220/66kV (HV)	4.27		
		Total	41.50	Auxiliary Consumption & Transformation Losses at Generator end	0.60%		
6	2 x 63MW DHP	Unit-I	63.58	220kV DHP - Tsirang Line	126.18	220kV DHP_Dagapela Line on Standby.	
		Unit-II	63.24	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	54.07		
		-	-	5MVA, 220/33kV TFR	0.20		
Total	126.82	Auxiliary Consumption & Transformation Losses at Generator end	0.35%				
7	4 x 15MW KHP	Unit-I	16.50	132kV KHP - Nangkor Line	39.07		
		Unit-II	16.51	132kV KHP - Kilikhar Line	26.02		
		Unit-III	16.69	5MVA, 132/11kV TFR	0.44		
		Unit-IV	16.48	132kV Motanga - Rangia Line	55.66		
Total	66.18	Auxiliary Consumption & Transformation Losses at Generator end	0.98%				
8	2 x 59MW NHP	Unit-I	63.62	132kV NHP-MHP-I	63.62		
		Unit-II	63.58	132kV NHP-MHP-II	63.50		
		Total	127.20	Auxiliary Consumption & Transformation Losses at Generator end	0.06%		

Note: Generation-Load Summary (MW) for 05-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	1,672.04	706.53	704.83	930.04	1.70
2	Eastern Grid	981.99	195.87	186.45	821.59	9.42
	Total	2,654.03	902.40	891.28	1,751.63	11.12

Note: Generation-Load Summary (MW) for 05-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	1,524.57	604.82	598.39	915.57	6.43
2	Eastern Grid	717.87	201.21	198.93	520.94	2.28
	Total	2,242.44	806.03	797.32	1,436.51	8.71

Note: Daily Energy (MUs) and Power(MW) Statistics for 05-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	38.99	0.00	20.00	60.73	1,840.70	1.68

- 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.