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

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	01-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	186.19	400kV THP - Siliguri Line - I	206.51	
		Unit- II	184.63	400kV THP - Siliguri Line - II	206.51	
		Unit- III	185.13	400kV THP - Siliguri Line - IV	194.36	
		Unit- IV	184.78	400kV THP - Malbase Line - III	561.54	
		Unit- V	182.68	400kV Malbase - Siliguri Line	247.38	
		Unit- VI	185.50	-	-	
		Total	1,108.91	Auxiliary Consumption & Transformation Losses at Generator end	0.00%	
2	4 x 180MW MHP	Unit-I	197.85	400kV MHP - Jigmeling Line - I	276.02	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	197.82	400kV MHP - Jigmeling Line - II	275.58	
		Unit-III	193.79	400kV MHP - Jigmeling Line - III	0.00	
		Unit-IV	196.45	400kV MHP - Jigmeling Line - IV	269.05	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	61.98	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	96.19	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	287.27	
		-	-	400kV Jigmeling - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II	429.82	
		-	-	80MVA, 220/132kV ICT - I (HV)	37.83	
		-	-	80MVA, 220/132kV ICT - II (HV)	37.55	
		-	-	220kV Tsirang - Jigmeling Line	8.16	
		-	-	132kV Gelephu - Salakati Line	37.51	
Total	785.91	Auxiliary Consumption & Transformation Losses at Generator end	0.34%			
3	4 x 84MW CHP	Unit- I	91.33	220kV CHP - Birpara Line - I	0.00	220kV CHP-Birpara Line I under Breakdown.
		Unit- II	91.41	220kV CHP - Birpara Line - II	51.78	
		Unit- III	91.03	220kV CHP - Gedu	120.76	
		Unit- IV	91.43	220kV CHP - Jamjee (old) - I	61.30	
		-	-	220kV CHP - Jamjee - II (new)	62.24	
		-	-	220kV CHP - Jamjee - III (new)	59.72	
		-	-	220kV Malbase - Birpara Line	32.15	
		-	-	66kV CHP - Gedu Line	9.30	
		-	-	3x3MVA, 66/11kV TFR	0.86	
Total	365.20	Auxiliary Consumption & Transformation Losses at Generator end	-0.21%			
4	2 x 12MW BHP (U/S)	Unit- I	12.00	220kV BHP - Semtokha Line	125.90	
		Unit- II	12.00	66kV BHP - Lobeyasa Line	27.66	
		Total	24.00	220kV BHP - Tsirang Line	-88.25	
5	2 x 20MW BHP (L/S)	Unit- I	20.80	5MVA, 66/11kV TFR	0.39	
		Unit- II	20.90	30MVA ICT, 220/66kV (HV)	4.63	
		Total	41.70	Auxiliary Consumption & Transformation Losses at Generator end	0.00%	
6	2 x 63MW DHP	Unit-I	63.54	220kV DHP - Tsirang Line	126.21	220kV DHP_Dagapela Line on Standby.
		Unit-II	63.19	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	53.91	
		-	-	5MVA, 220/33kV TFR	0.31	
Total	126.73	Auxiliary Consumption & Transformation Losses at Generator end	0.17%			
7	4 x 15MW KHP	Unit- I	16.58	132kV KHP - Nangkor Line	42.55	
		Unit-II	16.53	132kV KHP - Kilikhar Line	22.80	
		Unit- III	16.66	5MVA, 132/11kV TFR	0.33	
		Unit- IV	16.66	132kV Motanga - Rangia Line	48.15	
		Total	66.43	Auxiliary Consumption & Transformation Losses at Generator end	1.13%	
8	2 x 59MW NHP	Unit-I	50.05	132kV NHP-MHP-I	49.77	
		Unit-II	49.96	132kV NHP-MHP-II	49.62	
		Total	100.01	Auxiliary Consumption & Transformation Losses at Generator end	0.62%	

Note: Generation-Load Summary (MW) for 01-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	1,666.54	719.69	720.25	938.69	-0.56
2	Eastern Grid	952.35	157.76	153.72	802.75	4.04
	Total	2,618.89	877.45	873.97	1,741.44	3.48

Note: Generation-Load Summary for 01-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	1,682.94	605.13	584.25	1,042.19	20.88
2	Eastern Grid	855.38	208.53	203.97	682.47	4.56
	Total	2,538.32	813.66	788.22	1,724.66	25.44

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 02-Sep-2024(-ve:import, +ve:export)							
Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	1-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	185.75	400kV THP - Siliguri Line - I	0.00	400kV THP-SIL line I under Breakdown.	
		Unit-II	184.84	400kV THP - Siliguri Line - II	301.85		
		Unit-III	185.52	400kV THP - Siliguri Line - IV	286.86		
		Unit-IV	186.90	400kV THP - Malbase Line - III	528.31		
		Unit-V	184.94	400kV Malbase - Siliguri Line	232.00		
		Unit-VI	185.84	-	-		
		Total	1,113.79	Auxiliary Consumption & Transformation Losses at Generator end	-0.29%		
2	4 x 180MW MHP	Unit-I	169.85	400kV MHP - Jigmeling Line - I	240.42	400kV MHP-JLG Line III on Standby. 132kV MHP_Yurmo Line-I not in Service. 400kV JLG_ALI Interim Line I & 400kV JLG_ALI Direct Line I on Standby.	
		Unit-II	163.88	400kV MHP - Jigmeling Line - II	239.88		
		Unit-III	160.91	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	160.63	400kV MHP - Jigmeling Line - IV	234.36		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	60.98		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	115.27		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	236.95		
		-	-	400kV Jigmeling - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - II	352.23		
		-	-	80MVA, 220/132kV ICT - I (HV)	47.35		
		-	-	80MVA, 220/132kV ICT - II (HV)	47.07		
		-	-	220kV Tsirang - Jigmeling Line	8.16		
		-	-	132kV Gelephu - Salakati Line	33.43		
Total	655.27	Auxiliary Consumption & Transformation Losses at Generator end	1.01%				
3	4 x 84MW CHP	Unit-I	91.33	220kV CHP - Birpara Line - I	37.90		
		Unit-II	91.41	220kV CHP - Birpara Line - II	37.52		
		Unit-III	91.03	220kV CHP - Gedu	79.80		
		Unit-IV	91.43	220kV CHP - Jamjee (old) - I	67.66		
		-	-	220kV CHP - Jamjee - II (new)	68.36		
		-	-	220kV CHP - Jamjee - III (new)	65.96		
		-	-	220kV Malbase - Birpara Line	42.79		
		-	-	66kV CHP - Gedu Line	7.41		
		-	-	3x3MVA, 66/11kV TFR	1.00		
		Total	365.20	Auxiliary Consumption & Transformation Losses at Generator end	-0.11%		
4	2 x 12MW BHP (U/S)	Unit-I	12.00	220kV BHP - Sento Kha Line	122.00		
		Unit-II	12.00	66kV BHP - Lobeyasa Line	29.75		
		Total	24.00	220kV BHP - Tsirang Line	-87.70		
5	2 x 20MW BHP (L/S)	Unit-I	20.80	5MVA, 66/11kV TFR	0.50		
		Unit-II	20.90	30MVA ICT, 220/66kV (HV)	6.80		
		Total	41.70	Auxiliary Consumption & Transformation Losses at Generator end	1.75%		
6	2 x 63MW DHP	Unit-I	63.56	220kV DHP - Tsirang Line	126.25	220kV DHP_Dagapela Line on Standby.	
		Unit-II	63.26	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	54.83		
		-	-	5MVA, 220/33kV TFR	0.20		
Total	126.82	Auxiliary Consumption & Transformation Losses at Generator end	0.29%				
7	4 x 15MW KHP	Unit-I	16.51	132kV KHP - Nangkor Line	38.70		
		Unit-II	16.52	132kV KHP - Kilikhar Line	26.28		
		Unit-III	16.53	5MVA, 132/11kV TFR	0.41		
		Unit-IV	16.61	132kV Motanga - Rangia Line	62.25		
Total	66.17	Auxiliary Consumption & Transformation Losses at Generator end	1.18%				
8	2 x 59MW NHP	Unit-I	64.01	132kV NHP-MHP-I	63.48		
		Unit-II	63.99	132kV NHP-MHP-II	63.50		
		Total	128.00	Auxiliary Consumption & Transformation Losses at Generator end	0.80%		

Note: Generation-Load Summary (MW) for 01-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	1,671.51	724.43	726.55	938.92	-2.12
2	Eastern Grid	849.44	172.74	164.33	684.86	8.41
	Total	2,520.95	897.17	890.88	1,623.78	6.29

Note: Generation-Load Summary (MW) for 01-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	1,581.26	624.53	615.08	954.78	9.45
2	Eastern Grid	855.76	191.31	187.16	666.4	4.15
	Total	2,437.02	815.84	802.24	1,621.18	13.60

Note: Daily Energy (MUs) and Power(MW) Statistics for 01-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	38.93	0.00	20.73	61.05	1,793.24	1.38

- 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.