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

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	27-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	79.83	400kV THP - Siliguri Line - I	87.31	Unit-V under AMP. 400kV MAL-SIL line under Shutdown.
		Unit- II	157.36	400kV THP - Siliguri Line - II	87.05	
		Unit- III	64.25	400kV THP - Siliguri Line- IV	83.95	
		Unit- IV	136.40	400kV THP - Malbase Line - III	278.70	
		Unit- V	0.00	400kV Malbase - Siliguri Line	0.00	
		Unit- VI	99.30	-	-	
		Total	537.14	Auxiliary Consumption & Transformation Losses at Generator end	0.02%	
2	4 x 180MW MHP	Unit-I	73.75	400kV MHP - Jigmeling Line - I	0.00	Unit-IV under Shutdown. 400kV MHP-JLG Line I under Breakdown. 400kV MHP-JLG line II on Standby. 132kV MHP_Yurmo Line- I not in Service. 400kV JLG_ALI Interim Line II on Standby.
		Unit-II	197.88	400kV MHP - Jigmeling Line - II	0.00	
		Unit-III	145.48	400kV MHP - Jigmeling Line - III	217.51	
		Unit-IV	0.00	400kV MHP - Jigmeling Line - IV	216.52	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	61.83	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	106.48	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	80.69	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I	121.47	
		-	-	400kV Jigmeling - Alipurduar Line - II	120.48	
		-	-	80MVA, 220/132kV ICT - I (HV)	23.41	
		-	-	80MVA, 220/132kV ICT - II (HV)	23.20	
		-	-	220kV Tsirang - Jigmeling Line	-8.08	
-	-	132kV Gelephu - Salakati Line	20.40			
Total	417.11	Auxiliary Consumption & Transformation Losses at Generator end	0.17%			
3	4 x 84MW CHP	Unit- I	69.49	220kV CHP - Birpara Line - I	-12.79	
		Unit- II	59.67	220kV CHP - Birpara Line - II	-12.58	
		Unit- III	64.38	220kV CHP - Gedu	52.10	
		Unit- IV	70.71	220kV CHP - Jamjee (old) - I	77.39	
		-	-	220kV CHP - Jamjee - II (new)	77.72	
		-	-	220kV CHP - Jamjee - III (new)	75.04	
		-	-	220kV Malbase - Birpara Line	-17.91	
		-	-	66kV CHP - Gedu Line	7.37	
		-	-	3x3MVA, 66/11kV TFR	0.93	
Total	264.25	Auxiliary Consumption & Transformation Losses at Generator end	-0.35%			
4	2 x 12MW BHP (U/S)	Unit- I	7.89	220kV BHP - Semtokha Line	94.01	
		Unit- II	8.60	66kV BHP - Lobeyasa Line	25.33	
		Total	16.49	220kV BHP - Tsirang Line	-72.89	
5	2 x 20MW BHP (L/S)	Unit- I	15.44	5MVA, 66/11kV TFR	0.41	
		Unit- II	14.87	30MVA ICT, 220/66kV (HV)	9.91	
		Total	30.31	Auxiliary Consumption & Transformation Losses at Generator end	-0.13%	
6	2 x 63MW DHP	Unit-I	34.28	220kV DHP - Tsirang Line	67.84	220kV DHP_Dagapela Line on Standby.
		Unit-II	33.98	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	2.49	
		-	-	5MVA, 220/33kV TFR	0.30	
Total	68.26	Auxiliary Consumption & Transformation Losses at Generator end	0.18%			
7	4 x 15MW KHP	Unit- I	16.49	132kV KHP - Nangkor Line	43.48	
		Unit-II	16.64	132kV KHP - Kilikhar Line	21.66	
		Unit- III	16.51	5MVA, 132/11kV TFR	0.24	
		Unit- IV	16.45	132kV Motanga - Rangia Line	38.17	
		Total	66.09	Auxiliary Consumption & Transformation Losses at Generator end	1.07%	
8	2 x 59MW NHP	Unit-I	40.01	132kV NHP-MHP-I	39.73	
		Unit-II	40.01	132kV NHP-MHP-II	39.74	
		Total	80.02	Auxiliary Consumption & Transformation Losses at Generator end	0.69%	

Note: Generation-Load Summary (MW) for 27-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	916.45	709.50	710.24	215.03	-0.74
2	Eastern Grid	563.22	173.93	171.95	381.21	1.98
Total		1,479.67	883.43	882.19	596.24	1.24

Note: Generation-Load Summary for 27-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	793.39	642.14	642.63	186.91	-0.49
2	Eastern Grid	310.69	187.22	186.88	87.81	0.34
Total		1,104.08	829.36	829.51	274.72	-0.15

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 28-Oct-2024(-ve:import, +ve:export)							
Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	27-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	106.49	400kV THP - Siliguri Line - I	110.25	Unit-V under AMP. 400kV MAL-SIL line under Shutdown.	
		Unit-II	157.83	400kV THP - Siliguri Line - II	108.55		
		Unit-III	113.75	400kV THP - Siliguri Line - IV	103.71		
		Unit-IV	139.87	400kV THP - Malbase Line - III	298.26		
		Unit-V	0.00	400kV Malbase - Siliguri Line	0.00		
		Unit-VI	99.42	-	-		
		Total	617.36	Auxiliary Consumption & Transformation Losses at Generator end	-0.55%		
2	4 x 180MW MHP	Unit-I	85.35	400kV MHP - Jigmeling Line - I	0.00	Unit-IV on Standby. 400kV MHP-JLG Line I under Breakdown. 400kV MHP-JLG line II on Standby. 132kV MHP_Yurmo Line - I not in Service. 400kV JLG_ALI Interim Line II on Standby.	
		Unit-II	190.40	400kV MHP - Jigmeling Line - II	0.00		
		Unit-III	135.88	400kV MHP - Jigmeling Line - III	213.85		
		Unit-IV	0.00	400kV MHP - Jigmeling Line - IV	212.72		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	63.65		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	127.64		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	78.55		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - I	109.82		
		-	-	400kV Jigmeling - Alipurduar Line - II	111.27		
		-	-	80MVA, 220/132kV ICT - I (HV)	26.33		
		-	-	80MVA, 220/132kV ICT - II (HV)	26.06		
		-	-	220kV Tsirang - Jigmeling Line	-20.93		
		-	-	132kV Gelephu - Salakati Line	10.09		
Total	411.63	Auxiliary Consumption & Transformation Losses at Generator end	0.18%				
3	4 x 84MW CHP	Unit-I	69.33	220kV CHP - Birpara Line - I	-9.33		
		Unit-II	69.42	220kV CHP - Birpara Line - II	-9.03		
		Unit-III	65.39	220kV CHP - Gedu	42.88		
		Unit-IV	70.55	220kV CHP - Jamjee (old) - I	80.85		
		-	-	220kV CHP - Jamjee - II (new)	81.44		
		-	-	220kV CHP - Jamjee - III (new)	78.65		
		-	-	220kV Malbase - Birpara Line	-4.59		
		-	-	66kV CHP - Gedu Line	7.14		
		-	-	3x3MVA, 66/11kV TFR	1.19		
Total	274.69	Auxiliary Consumption & Transformation Losses at Generator end	0.33%				
4	2 x 12MW BHP (U/S)	Unit-I	7.78	220kV BHP - Sentokha Line	102.95		
		Unit-II	8.49	66kV BHP - Lobeyasa Line	28.04		
		Total	16.27	220kV BHP - Tsirang Line	-84.99		
5	2 x 20MW BHP (L/S)	Unit-I	15.37	5MVA, 66/11kV TFR	0.62		
		Unit-II	14.80	30MVA ICT, 220/66kV (HV)	13.07		
		Total	30.17	Auxiliary Consumption & Transformation Losses at Generator end	-0.39%		
6	2 x 63MW DHP	Unit-I	34.30	220kV DHP - Tsirang Line	68.00	220kV DHP_Dagapela Line on Standby.	
		Unit-II	34.20	220kV DHP - Dagapela Line	0.31		
		-	-	220kV Jigmeling - Dagapela Line	53.50		
		-	-	5MVA, 220/33kV TFR	0.20		
Total	68.50	Auxiliary Consumption & Transformation Losses at Generator end	-0.01%				
7	4 x 15MW KHP	Unit-I	12.56	132kV KHP - Nangkor Line	29.41		
		Unit-II	12.57	132kV KHP - Kilikhar Line	19.93		
		Unit-III	12.53	5MVA, 132/11kV TFR	0.36		
		Unit-IV	12.62	132kV Motanga - Rangia Line	31.00		
		Total	50.28	Auxiliary Consumption & Transformation Losses at Generator end	1.15%		
8	2 x 59MW NHP	Unit-I	51.96	132kV NHP-MHP-I	51.62		
		Unit-II	28.01	132kV NHP-MHP-II	27.72		
		Total	79.97	Auxiliary Consumption & Transformation Losses at Generator end	0.79%		

Note: Generation-Load Summary (MW) for 27-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	1,006.99	728.36	730.75	299.56	-2.39
2	Eastern Grid	541.88	180.22	178.26	340.73	1.96
	Total	1,548.87	908.58	909.01	640.29	-0.43

Note: Generation-Load Summary (MW) for 27-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	780.38	692.65	691.70	146.09	0.95
2	Eastern Grid	318.40	194.71	194.81	65.33	-0.10
	Total	1,098.78	887.36	886.51	211.42	0.85

Note: Daily Energy (MUs) and Power(MW) Statistics for 27-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)
1	14.54	0.00	20.53	36.15	706.72	0.92

- 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.
 - 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.