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

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	17-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	168.78	400kV THP - Siliguri Line - I	162.01	Unit-VI under shutdown.
		Unit- II	183.06	400kV THP - Siliguri Line - II	151.56	
		Unit- III	124.00	400kV THP - Siliguri Line- IV	146.17	
		Unit- IV	183.19	400kV THP - Malbase Line - III	287.79	
		Unit- V	78.50	400kV Malbase - Siliguri Line	114.20	
		Unit- VI	0.00	-	-	
		Total	737.53	Auxiliary Consumption & Transformation Losses at Generator end	0.00%	
2	4 x 180MW MHP	Unit-I	105.21	400kV MHP - Jigmeling Line - I	0.00	400kV MHP-JLG Line I under Breakdown. 132kV MHP_Yurmoo Line- I not in Service. 400kV JLG_ALI Interim Line II on Standby.
		Unit-II	197.81	400kV MHP - Jigmeling Line - II	175.79	
		Unit-III	145.52	400kV MHP - Jigmeling Line - III	182.85	
		Unit-IV	54.34	400kV MHP - Jigmeling Line - IV	181.39	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	61.43	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	82.55	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	113.46	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I	169.46	
		-	-	400kV Jigmeling - Alipurduar Line - II	170.18	
		-	-	80MVA, 220/132kV ICT - I (HV)	23.61	
		-	-	80MVA, 220/132kV ICT - II (HV)	23.49	
		-	-	220kV Tsirang - Jigmeling Line	16.39	
		-	-	132kV Gelephu - Salakati Line	16.59	
Total	502.88	Auxiliary Consumption & Transformation Losses at Generator end	0.19%			
3	4 x 84MW CHP	Unit- I	91.48	220kV CHP - Birpara Line - I	14.46	66kV CHP-Gedu line under shutdown.
		Unit- II	91.26	220kV CHP - Birpara Line - II	14.51	
		Unit- III	91.29	220kV CHP - Gedu	129.25	
		Unit- IV	91.33	220kV CHP - Jamjee (old) - I	69.03	
		-	-	220kV CHP - Jamjee - II (new)	69.46	
		-	-	220kV CHP - Jamjee - III (new)	67.14	
		-	-	220kV Malbase - Birpara Line	-33.11	
		-	-	66kV CHP - Gedu Line	0.00	
Total	365.36	Auxiliary Consumption & Transformation Losses at Generator end	0.17%			
4	2 x 12MW BHP (U/S)	Unit- I	9.74	220kV BHP - Semtokha Line	100.70	
		Unit- II	10.00	66kV BHP - Lobeyasa Line	25.26	
		Total	19.74	220kV BHP - Tsirang Line	-72.17	
5	2 x 20MW BHP (L/S)	Unit- I	17.58	5MVA, 66/11kV TFR	0.37	
		Unit- II	16.94	30MVA ICT, 220/66kV (HV)	6.55	
		Total	34.52	Auxiliary Consumption & Transformation Losses at Generator end	0.18%	
6	2 x 63MW DHP	Unit-I	46.33	220kV DHP - Tsirang Line	92.50	220kV DHP_Dagapela Line on Standby.
		Unit-II	46.39	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	52.45	
		-	-	5MVA, 220/33kV TFR	0.20	
Total	92.72	Auxiliary Consumption & Transformation Losses at Generator end	0.02%			
7	4 x 15MW KHP	Unit- I	16.49	132kV KHP - Nangkor Line	43.99	
		Unit-II	16.57	132kV KHP - Kilikhar Line	21.24	
		Unit- III	16.52	5MVA, 132/11kV TFR	0.21	
		Unit- IV	16.56	132kV Motanga - Rangia Line	36.56	
		Total	66.14	Auxiliary Consumption & Transformation Losses at Generator end	1.06%	
8	2 x 59MW NHP	Unit-I	50.20	132kV NHP-MHP-I	49.84	
		Unit-II	49.86	132kV NHP-MHP-II	49.70	
		Total	100.06	Auxiliary Consumption & Transformation Losses at Generator end	0.52%	

Note: Generation-Load Summary (MW) for 17-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	1,249.87	673.68	672.94	559.80	0.74
2	Eastern Grid	669.08	179.22	177.04	506.25	2.18
	Total	1,918.95	852.90	849.98	1,066.05	2.92

Note: Generation-Load Summary for 17-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	1,090.12	587.20	580.86	496.14	6.34
2	Eastern Grid	406.64	227.16	226.31	186.36	0.85
	Total	1,496.76	814.36	807.17	682.50	7.19

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Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	17-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	99.39	400kV THP - Siliguri Line - I	165.85		
		Unit-II	186.78	400kV THP - Siliguri Line - II	164.60		
		Unit-III	138.72	400kV THP - Siliguri Line - IV	158.55		
		Unit-IV	186.10	400kV THP - Malbase Line - III	331.07		
		Unit-V	147.06	400kV Malbase - Siliguri Line	117.94		
		Unit-VI	60.81	-	-		
		Total	818.86	Auxiliary Consumption & Transformation Losses at Generator end	-0.15%		
2	4 x 180MW MHP	Unit-I	130.14	400kV MHP - Jigmeling Line - I	0.00	400kV MHP-JLG Line I under Breakdown. 132kV MHP_Yurmoo Line-I not in Service. 400kV JLG_ALI Interim Line II on Standby.	
		Unit-II	197.71	400kV MHP - Jigmeling Line - II	179.06		
		Unit-III	115.36	400kV MHP - Jigmeling Line - III	185.99		
		Unit-IV	69.96	400kV MHP - Jigmeling Line - IV	184.61		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	62.30		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	113.46		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	108.36		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - I	160.73		
		-	-	400kV Jigmeling - Alipurduar Line - II	162.18		
		-	-	80MVA, 220/132kV ICT - I (HV)	27.36		
		-	-	80MVA, 220/132kV ICT - II (HV)	27.07		
		-	-	220kV Tsirang - Jigmeling Line	-4.61		
		-	-	132kV Gelephu - Salakati Line	11.92		
		Total	513.17	Auxiliary Consumption & Transformation Losses at Generator end	0.06%		
		3	4 x 84MW CHP	Unit-I	85.88		
Unit-II	86.16			220kV CHP - Birpara Line - II	10.03		
Unit-III	87.83			220kV CHP - Gedu	108.60		
Unit-IV	86.00			220kV CHP - Jamjee (old) - I	72.47		
-	-			220kV CHP - Jamjee - II (new)	72.97		
-	-			220kV CHP - Jamjee - III (new)	70.48		
-	-			220kV Malbase - Birpara Line	-24.70		
-	-			66kV CHP - Gedu Line	0.00		
-	-			3x3MVA, 66/11kV TFR	1.06		
Total	345.87	Auxiliary Consumption & Transformation Losses at Generator end	0.14%				
4	2 x 12MW BHP (U/S)	Unit-I	9.63	220kV BHP - Sentokha Line	116.00		
		Unit-II	9.98	66kV BHP - Lobeyasa Line	28.60		
		Total	19.61	220kV BHP - Tsirang Line	-90.11		
5	2 x 20MW BHP (L/S)	Unit-I	17.60	5MVA, 66/11kV TFR	0.55		
		Unit-II	18.00	30MVA ICT, 220/66kV (HV)	10.24		
		Total	35.60	Auxiliary Consumption & Transformation Losses at Generator end	0.31%		
6	2 x 63MW DHP	Unit-I	45.33	220kV DHP - Tsirang Line	89.95	220kV DHP_Dagapela Line on Standby.	
		Unit-II	44.99	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	52.88		
		-	-	5MVA, 220/33kV TFR	0.20		
Total	90.32	Auxiliary Consumption & Transformation Losses at Generator end	0.19%				
7	4 x 15MW KHP	Unit-I	16.54	132kV KHP - Nangkor Line	42.22		
		Unit-II	16.61	132kV KHP - Kilikhar Line	23.23		
		Unit-III	16.63	5MVA, 132/11kV TFR	0.30		
		Unit-IV	16.60	132kV Motanga - Rangia Line	41.40		
		Total	66.38	Auxiliary Consumption & Transformation Losses at Generator end	0.95%		
8	2 x 59MW NHP	Unit-I	49.82	132kV NHP-MHP-I	49.44		
		Unit-II	49.94	132kV NHP-MHP-II	49.68		
		Total	99.76	Auxiliary Consumption & Transformation Losses at Generator end	0.64%		

Note: Generation-Load Summary (MW) for 17-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	1,310.26	712.81	713.21	602.06	-0.40
2	Eastern Grid	679.31	190.11	188.51	484.59	1.60
Total		1,989.57	902.92	901.72	1,086.65	1.20

Note: Generation-Load Summary (MW) for 17-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	1,087.09	647.92	643.85	493.95	4.07
2	Eastern Grid	404.93	195.75	193.72	154.4	2.03
Total		1,492.02	843.67	837.57	648.35	6.10

Note: Daily Energy (MUs) and Power(MW) Statistics for 17-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	25.40	0.00	20.45	47.62	1,204.79	1.77

- 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.