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

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	20-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	149.01	400kV THP - Siliguri Line - I	128.10	Unit-V under Shutdown.
		Unit- II	165.67	400kV THP - Siliguri Line - II	128.66	
		Unit- III	49.36	400kV THP - Siliguri Line - IV	124.07	
		Unit- IV	149.63	400kV THP - Malbase Line - III	271.88	
		Unit- V	0.00	400kV Malbase - Siliguri Line	90.57	
		Unit- VI	139.98	-	-	
		Total	653.65	Auxiliary Consumption & Transformation Losses at Generator end	0.14%	
2	4 x 180MW MHP	Unit-I	150.14	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	197.68	400kV MHP - Jigmeling Line - II	205.80	
		Unit-III	150.98	400kV MHP - Jigmeling Line - III	213.15	
		Unit-IV	85.07	400kV MHP - Jigmeling Line - IV	211.61	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	61.50	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	109.29	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	129.46	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I	192.73	
		-	-	400kV Jigmeling - Alipurduar Line - II	194.18	
		-	-	80MVA, 220/132kV ICT - I (HV)	25.07	
		-	-	80MVA, 220/132kV ICT - II (HV)	24.81	
		-	-	220kV Tsirang - Jigmeling Line	-6.19	
		-	-	132kV Gelephu - Salakati Line	16.59	
Total	583.87	Auxiliary Consumption & Transformation Losses at Generator end	0.19%			
3	4 x 84MW CHP	Unit- I	78.07	220kV CHP - Birpara Line - I	-3.61	
		Unit- II	79.38	220kV CHP - Birpara Line - II	-3.49	
		Unit- III	77.11	220kV CHP - Gedu	106.03	
		Unit- IV	79.51	220kV CHP - Jamjee (old) - I	68.67	
		-	-	220kV CHP - Jamjee - II (new)	69.17	
		-	-	220kV CHP - Jamjee - III (new)	66.79	
		-	-	220kV Malbase - Birpara Line	-44.18	
		-	-	66kV CHP - Gedu Line	9.03	
		-	-	3x3MVA, 66/11kV TFR	0.93	
Total	314.07	Auxiliary Consumption & Transformation Losses at Generator end	0.18%			
4	2 x 12MW BHP (U/S)	Unit- I	9.98	220kV BHP - Semtokha Line	112.50	
		Unit- II	9.48	66kV BHP - Lobeyasa Line	26.65	
		Total	19.46	220kV BHP - Tsirang Line	-86.38	
5	2 x 20MW BHP (L/S)	Unit- I	17.23	5MVA, 66/11kV TFR	0.41	
		Unit- II	16.59	30MVA ICT, 220/66kV (HV)	8.30	
		Total	33.82	Auxiliary Consumption & Transformation Losses at Generator end	0.19%	
6	2 x 63MW DHP	Unit-I	42.35	220kV DHP - Tsirang Line	83.91	220kV DHP_Dagapela Line on Standby.
		Unit-II	41.96	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	52.19	
		-	-	5MVA, 220/33kV TFR	0.20	
Total	84.31	Auxiliary Consumption & Transformation Losses at Generator end	0.24%			
7	4 x 15MW KHP	Unit- I	16.53	132kV KHP - Nangkor Line	43.38	
		Unit-II	16.58	132kV KHP - Kilikhar Line	22.05	
		Unit- III	16.60	5MVA, 132/11kV TFR	0.24	
		Unit- IV	16.56	132kV Motanga - Rangia Line	38.05	
		Total	66.27	Auxiliary Consumption & Transformation Losses at Generator end	0.91%	
8	2 x 59MW NHP	Unit-I	58.91	132kV NHP-MHP-I	58.64	
		Unit-II	51.04	132kV NHP-MHP-II	50.67	
		Total	109.95	Auxiliary Consumption & Transformation Losses at Generator end	0.58%	

Note: Generation-Load Summary (MW) for 20-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	1,105.31	691.38	689.59	420.12	1.79
2	Eastern Grid	760.09	182.89	180.53	571.01	2.36
Total		1,865.40	874.27	870.12	991.13	4.15

Note: Generation-Load Summary for 20-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	917.56	655.98	656.02	292.48	-0.04
2	Eastern Grid	393.40	182.32	180.13	180.18	2.19
Total		1,310.96	838.30	836.15	472.66	2.15

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Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	20-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	176.10	400kV THP - Siliguri Line - I	140.37	Unit-V and Unit-VI under shutdown.
		Unit-II	176.13	400kV THP - Siliguri Line - II	139.48	
		Unit-III	183.15	400kV THP - Siliguri Line - IV	134.08	
		Unit-IV	183.55	400kV THP - Malbase Line - III	300.02	
		Unit-V	0.00	400kV Malbase - Siliguri Line	99.63	
		Unit-VI	0.00	-	-	
		Total	718.93	Auxiliary Consumption & Transformation Losses at Generator end	0.69%	
2	4 x 180MW MHP	Unit-I	126.11	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	197.67	400kV MHP - Jigmeling Line - II	180.18	
		Unit-III	126.69	400kV MHP - Jigmeling Line - III	186.96	
		Unit-IV	76.06	400kV MHP - Jigmeling Line - IV	185.24	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	63.41	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	122.17	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	106.20	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I	159.81	
		-	-	400kV Jigmeling - Alipurduar Line - II	159.25	
		-	-	80MVA, 220/132kV ICT - I (HV)	25.26	
		-	-	80MVA, 220/132kV ICT - II (HV)	24.09	
		-	-	220kV Tsirang - Jigmeling Line	-18.96	
		-	-	132kV Gelephu - Salakati Line	9.20	
		Total	526.53	Auxiliary Consumption & Transformation Losses at Generator end	0.02%	
		3	4 x 84MW CHP	Unit-I	79.50	
Unit-II	83.12			220kV CHP - Birpara Line - II	-1.80	
Unit-III	83.67			220kV CHP - Gedu	95.04	
Unit-IV	80.26			220kV CHP - Jamjee (old) - I	75.12	
-	-			220kV CHP - Jamjee - II (new)	75.73	
-	-			220kV CHP - Jamjee - III (new)	73.14	
-	-			220kV Malbase - Birpara Line	-36.00	
-	-			66kV CHP - Gedu Line	9.57	
-	-			3x3MVA, 66/11kV TFR	1.25	
Total	326.55			Auxiliary Consumption & Transformation Losses at Generator end	0.09%	
4	2 x 12MW BHP (U/S)	Unit-I	10.10	220kV BHP - Sentokha Line	119.80	
		Unit-II	8.70	66kV BHP - Lobeyasa Line	29.29	
		Total	18.80	220kV BHP - Tsirang Line	-96.83	
5	2 x 20MW BHP (L/S)	Unit-I	17.00	5MVA, 66/11kV TFR	0.61	
		Unit-II	17.00	30MVA ICT, 220/66kV (HV)	11.67	
		Total	34.00	Auxiliary Consumption & Transformation Losses at Generator end	-0.13%	
6	2 x 63MW DHP	Unit-I	40.50	220kV DHP - Tsirang Line	80.89	220kV DHP_Dagapela Line on Standby.
		Unit-II	40.62	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	53.43	
		-	-	5MVA, 220/33kV TFR	0.23	
Total	81.12	Auxiliary Consumption & Transformation Losses at Generator end	0.00%			
7	4 x 15MW KHP	Unit-I	16.54	132kV KHP - Nangkor Line	41.02	
		Unit-II	16.56	132kV KHP - Kilikhar Line	24.15	
		Unit-III	16.58	5MVA, 132/11kV TFR	0.37	
		Unit-IV	16.53	132kV Motanga - Rangia Line	38.80	
		Total	66.21	Auxiliary Consumption & Transformation Losses at Generator end	1.01%	
8	2 x 59MW NHP	Unit-I	44.92	132kV NHP-MHP-I	44.60	
		Unit-II	45.01	132kV NHP-MHP-II	44.77	
		Total	89.93	Auxiliary Consumption & Transformation Losses at Generator end	0.62%	

Note: Generation-Load Summary (MW) for 20-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	1,179.40	724.40	719.19	473.96	5.21
2	Eastern Grid	682.67	190.45	189.11	473.26	1.34
	Total	1,862.07	914.85	908.30	947.22	6.55

Note: Generation-Load Summary (MW) for 20-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	911.97	689.26	684.57	267.3	4.69
2	Eastern Grid	387.32	194.47	192.31	148.26	2.16
	Total	1,299.29	883.73	876.88	415.56	6.85

Note: Daily Energy (MUs) and Power(MW) Statistics for 20-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	23.90	0.00	20.51	43.90	1,169.10	0.36

- 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.