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

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	22-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	106.73	400kV THP - Siliguri Line - I	126.54	Unit-V under Shutdown.
		Unit- II	177.86	400kV THP - Siliguri Line - II	125.07	
		Unit- III	98.77	400kV THP - Siliguri Line- IV	119.74	
		Unit- IV	177.55	400kV THP - Malbase Line - III	290.48	
		Unit- V	0.00	400kV Malbase - Siliguri Line	81.34	
		Unit- VI	102.00	-	-	
		Total	662.91	Auxiliary Consumption & Transformation Losses at Generator end	0.16%	
2	4 x 180MW MHP	Unit-I	130.25	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	197.18	400kV MHP - Jigmeling Line - II	165.84	
		Unit-III	80.58	400kV MHP - Jigmeling Line - III	171.94	
		Unit-IV	73.33	400kV MHP - Jigmeling Line - IV	170.51	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	62.00	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	99.64	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	101.09	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I	152.00	
		-	-	400kV Jigmeling - Alipurduar Line - II	152.00	
		-	-	80MVA, 220/132kV ICT - I (HV)	23.77	
		-	-	80MVA, 220/132kV ICT - II (HV)	23.44	
		-	-	220kV Tsirang - Jigmeling Line	-9.56	
		-	-	132kV Gelephu - Salakati Line	15.26	
Total	481.34	Auxiliary Consumption & Transformation Losses at Generator end	0.15%			
3	4 x 84MW CHP	Unit- I	75.20	220kV CHP - Birpara Line - I	-13.94	
		Unit- II	73.40	220kV CHP - Birpara Line - II	-13.45	
		Unit- III	75.98	220kV CHP - Gedu	95.23	
		Unit- IV	75.04	220kV CHP - Jamjee (old) - I	74.19	
		-	-	220kV CHP - Jamjee - II (new)	74.62	
		-	-	220kV CHP - Jamjee - III (new)	72.04	
		-	-	220kV Malbase - Birpara Line	-54.30	
		-	-	66kV CHP - Gedu Line	9.70	
		-	-	3x3MVA, 66/11kV TFR	0.89	
Total	299.62	Auxiliary Consumption & Transformation Losses at Generator end	0.11%			
4	2 x 12MW BHP (U/S)	Unit- I	8.80	220kV BHP - Semtokha Line	96.50	
		Unit- II	8.50	66kV BHP - Lobeyasa Line	25.64	
		Total	17.30	220kV BHP - Tsirang Line	-74.03	
5	2 x 20MW BHP (L/S)	Unit- I	15.50	5MVA, 66/11kV TFR	0.36	
		Unit- II	15.75	30MVA ICT, 220/66kV (HV)	8.87	
		Total	31.25	Auxiliary Consumption & Transformation Losses at Generator end	0.16%	
6	2 x 63MW DHP	Unit-I	38.90	220kV DHP - Tsirang Line	77.04	220kV DHP_Dagapela Line on Standby.
		Unit-II	38.71	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	52.79	
		-	-	5MVA, 220/33kV TFR	0.30	
Total	77.61	Auxiliary Consumption & Transformation Losses at Generator end	0.35%			
7	4 x 15MW KHP	Unit- I	16.44	132kV KHP - Nangkor Line	44.37	
		Unit-II	16.60	132kV KHP - Kilikhar Line	21.42	
		Unit- III	16.51	5MVA, 132/11kV TFR	0.20	
		Unit- IV	16.63	132kV Motanga - Rangia Line	34.94	
		Total	66.18	Auxiliary Consumption & Transformation Losses at Generator end	0.29%	
8	2 x 59MW NHP	Unit-I	45.04	132kV NHP-MHP-I	44.64	
		Unit-II	45.03	132kV NHP-MHP-II	45.04	
		Total	90.07	Auxiliary Consumption & Transformation Losses at Generator end	0.43%	

Note: Generation-Load Summary (MW) for 22-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	1,088.69	727.25	725.48	371.00	1.77
2	Eastern Grid	637.59	172.74	171.43	455.29	1.31
	Total	1,726.28	899.99	896.91	826.29	3.08

Note: Generation-Load Summary for 22-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	914.35	673.11	666.85	271.76	6.26
2	Eastern Grid	365.61	174.37	172.42	160.72	1.95
	Total	1,279.96	847.48	839.27	432.48	8.21

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 23-Oct-2024(-ve:import, +ve:export)							
Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	22-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	106.96	400kV THP - Siliguri Line - I	106.18	Unit-V under shutdown.	
		Unit-II	177.87	400kV THP - Siliguri Line - II	105.86		
		Unit-III	98.96	400kV THP - Siliguri Line - IV	102.09		
		Unit-IV	176.58	400kV THP - Malbase Line - III	345.70		
		Unit-V	0.00	400kV Malbase - Siliguri Line	49.50		
		Unit-VI	99.47	-	-		
		Total	659.84	Auxiliary Consumption & Transformation Losses at Generator end	0.00%		
2	4 x 180MW MHP	Unit-I	130.28	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	197.24	400kV MHP - Jigmeling Line - II	159.04		
		Unit-III	70.27	400kV MHP - Jigmeling Line - III	164.96		
		Unit-IV	64.92	400kV MHP - Jigmeling Line - IV	163.68		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	63.14		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	125.70		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	88.73		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - I	133.09		
		-	-	400kV Jigmeling - Alipurduar Line - II	134.55		
		-	-	80MVA, 220/132kV ICT - I (HV)	24.99		
		-	-	80MVA, 220/132kV ICT - II (HV)	24.99		
		-	-	220kV Tsirang - Jigmeling Line	-15.20		
		-	-	132kV Gelephu - Salakati Line	12.70		
		Total	462.71	Auxiliary Consumption & Transformation Losses at Generator end	0.27%		
		3	4 x 84MW CHP	Unit-I	75.27		
Unit-II	73.44			220kV CHP - Birpara Line - II	-0.43		
Unit-III	76.02			220kV CHP - Gedu	62.82		
Unit-IV	74.94			220kV CHP - Jamjee (old) - I	76.95		
-	-			220kV CHP - Jamjee - II (new)	77.23		
-	-			220kV CHP - Jamjee - III (new)	74.84		
-	-			220kV Malbase - Birpara Line	-6.36		
-	-			66kV CHP - Gedu Line	8.90		
-	-			3x3MVA, 66/11kV TFR	1.15		
Total	299.67			Auxiliary Consumption & Transformation Losses at Generator end	0.11%		
4	2 x 12MW BHP (U/S)	Unit-I	8.50	220kV BHP - Sentokha Line	108.00		
		Unit-II	8.60	66kV BHP - Lobeyasa Line	28.00		
		Total	17.10	220kV BHP - Tsirang Line	-87.26		
5	2 x 20MW BHP (L/S)	Unit-I	16.20	5MVA, 66/11kV TFR	0.57		
		Unit-II	16.10	30MVA ICT, 220/66kV (HV)	12.02		
		Total	32.30	Auxiliary Consumption & Transformation Losses at Generator end	0.18%		
6	2 x 63MW DHP	Unit-I	37.30	220kV DHP - Tsirang Line	74.33	220kV DHP_Dagapela Line on Standby.	
		Unit-II	37.45	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	53.58		
		-	-	5MVA, 220/33kV TFR	0.20		
Total	74.75	Auxiliary Consumption & Transformation Losses at Generator end	0.29%				
7	4 x 15MW KHP	Unit-I	16.47	132kV KHP - Nangkor Line	41.34		
		Unit-II	16.59	132kV KHP - Kilikhar Line	23.91		
		Unit-III	16.65	5MVA, 132/11kV TFR	0.27		
		Unit-IV	16.50	132kV Motanga - Rangia Line	48.24		
		Total	66.21	Auxiliary Consumption & Transformation Losses at Generator end	1.04%		
8	2 x 59MW NHP	Unit-I	44.99	132kV NHP-MHP-I	44.66		
		Unit-II	45.02	132kV NHP-MHP-II	44.72		
		Total	90.01	Auxiliary Consumption & Transformation Losses at Generator end	0.70%		

Note: Generation-Load Summary (MW) for 22-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	1,083.66	744.13	743.49	354.73	0.64
2	Eastern Grid	618.93	186.42	183.83	417.31	2.59
	Total	1,702.59	930.55	927.32	772.04	3.23

Note: Generation-Load Summary (MW) for 22-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	908.74	680.15	680.32	274.31	-0.17
2	Eastern Grid	351.05	195.93	194.06	109.4	1.87
	Total	1,259.79	876.08	874.38	383.71	1.70

Note: Daily Energy (MUs) and Power(MW) Statistics for 22-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	18.73	0.00	20.82	41.05	930.15	1.41

- 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.