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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-Nov-2024(-ve:import, +ve:export)

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	02-Nov-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	60.01	400kV THP - Siliguri Line - I	0.00	Unit-V on AMP. 400kV THP_Siliguri line-I on standby 400kV MAL-SIL line under Shutdown.
		Unit- II	137.39	400kV THP - Siliguri Line - II	108.45	
		Unit- III	49.15	400kV THP - Siliguri Line - IV	102.69	
		Unit- IV	140.52	400kV THP - Malbase Line - III	276.21	
		Unit- V	0.00	400kV Malbase - Siliguri Line	0.00	
		Unit- VI	99.68	-	-	
		Total	486.75	Auxiliary Consumption & Transformation Losses at Generator end	-0.12%	
2	4 x 180MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Line - I	0.00	Unit-I 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	190.18	400kV MHP - Jigmeling Line - II	0.00	
		Unit-III	140.34	400kV MHP - Jigmeling Line - III	205.40	
		Unit-IV	71.33	400kV MHP - Jigmeling Line - IV	204.11	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	61.60	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	109.44	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	69.60	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I	104.00	
		-	-	400kV Jigmeling - Alipurduar Line - II	104.73	
		-	-	80MVA, 220/132kV ICT - I (HV)	20.17	
		-	-	80MVA, 220/132kV ICT - II (HV)	19.99	
		-	-	220kV Tsiurang - Jigmeling Line	-17.00	
		-	-	132kV Gelephu - Salakati Line	12.31	
Total	401.85	Auxiliary Consumption & Transformation Losses at Generator end	0.06%			
3	4 x 84MW CHP	Unit- I	79.56	220kV CHP - Birpara Line - I	-22.01	Unit-IV on Standby.
		Unit- II	79.33	220kV CHP - Birpara Line - II	-21.64	
		Unit- III	79.63	220kV CHP - Gedu	44.27	
		Unit- IV	0.00	220kV CHP - Jamjee (old) - I	76.80	
		-	-	220kV CHP - Jamjee - II (new)	77.32	
		-	-	220kV CHP - Jamjee - III (new)	74.98	
		-	-	220kV Malbase - Birpara Line	-26.55	
		-	-	66kV CHP - Gedu Line	7.71	
		-	-	3x3MVA, 66/11kV TFR	1.24	
Total	238.52	Auxiliary Consumption & Transformation Losses at Generator end	-0.06%			
4	2 x 12MW BHP (U/S)	Unit- I	6.65	220kV BHP - Semtokha Line	91.40	
		Unit- II	8.31	66kV BHP - Lobeysa Line	24.56	
Total	14.96	220kV BHP - Tsiurang Line	-73.51			
5	2 x 20MW BHP (L/S)	Unit- I	14.22	5MVA, 66/11kV TFR	0.40	
		Unit- II	13.70	30MVA ICT, 220/66kV (HV)	10.73	
Total	27.92	Auxiliary Consumption & Transformation Losses at Generator end	0.07%			
6	2 x 63MW DHP	Unit-I	0.00	220kV DHP - Tsiurang Line	59.70	Unit I on Standby. 220kV DHP_Dagapela Line on Standby.
		Unit-II	60.03	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	53.14	
		-	-	5MVA, 220/33kV TFR	0.20	
Total	60.03	Auxiliary Consumption & Transformation Losses at Generator end	0.22%			
7	4 x 15MW KHP	Unit- I	12.55	132kV KHP - Nangkhor Line	31.58	
		Unit-II	12.56	132kV KHP - Kilikhar Line	17.90	
		Unit- III	12.57	5MVA, 132/11kV TFR	0.22	
		Unit- IV	12.59	132kV Motanga - Rangia Line	28.00	
		Total	50.27	Auxiliary Consumption & Transformation Losses at Generator end	1.13%	
8	2 x 59MW NHP	Unit-I	24.95	132kV NHP-MHP-I	24.80	
		Unit-II	45.01	132kV NHP-MHP-II	44.71	
		Total	69.96	Auxiliary Consumption & Transformation Losses at Generator end	0.64%	

Note: Generation-Load Summary (MW) for 02-Nov-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	828.18	704.24	704.83	140.94	-0.59
2	Eastern Grid	522.08	186.44	185.17	318.64	1.27
Total		1,350.26	890.68	890.00	459.58	0.68

Note: Generation-Load Summary for 02-Nov-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	710.10	674.24	674.85	85.46	-0.61
2	Eastern Grid	281.88	179.03	175.42	53.25	3.61
Total		991.98	853.27	850.27	138.71	3.00

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 02-Nov-2024(-ve:import, +ve:export)							
Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	2-Nov-2024	18:00 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	65.14	400kV THP - Siliguri Line - I	0.00	Unit-V under AMP. 400kV THP_Siliguri line-1 on standby. 400kV MAL-SIL line under Shutdown.	
		Unit-II	137.77	400kV THP - Siliguri Line - II	110.58		
		Unit-III	59.17	400kV THP - Siliguri Line - IV	105.44		
		Unit-IV	140.54	400kV THP - Malbase Line - III	285.28		
		Unit-V	0.00	400kV Malbase - Siliguri Line	0.00		
		Unit-VI	99.50	-	-		
		Total	502.12	Auxiliary Consumption & Transformation Losses at Generator end	0.16%		
2	4 x 180MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Line - I	0.00	Unit-I under AMP. 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	190.20	400kV MHP - Jigmeling Line - II	0.00		
		Unit-III	100.23	400kV MHP - Jigmeling Line - III	189.40		
		Unit-IV	81.45	400kV MHP - Jigmeling Line - IV	188.45		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	63.45		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	123.15		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	63.27		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - I	93.82		
		-	-	400kV Jigmeling - Alipurduar Line - II	93.82		
		-	-	80MVA, 220/132kV ICT - I (HV)	22.97		
		-	-	80MVA, 220/132kV ICT - II (HV)	22.78		
		-	-	220kV Tsirang - Jigmeling Line	-24.20		
		-	-	132kV Gelephu - Salakati Line	8.63		
Total	371.88	Auxiliary Consumption & Transformation Losses at Generator end	0.02%				
3	4 x 84MW CHP	Unit-I	82.67	220kV CHP - Birpara Line - I	-17.89	Unit-IV on Standby.	
		Unit-II	83.30	220kV CHP - Birpara Line - II	-17.41		
		Unit-III	83.49	220kV CHP - Gedu	35.53		
		Unit-IV	0.00	220kV CHP - Jamjee (old) - I	81.09		
		-	-	220kV CHP - Jamjee - II (new)	81.61		
		-	-	220kV CHP - Jamjee - III (new)	78.60		
		-	-	220kV Malbase - Birpara Line	-13.09		
		-	-	66kV CHP - Gedu Line	7.30		
		-	-	3x3MVA, 66/11kV TFR	1.55		
		Total	249.46	Auxiliary Consumption & Transformation Losses at Generator end	-0.37%		
4	2 x 12MW BHP (U/S)	Unit-I	6.50	220kV BHP - Sentokha Line	93.58		
		Unit-II	7.90	66kV BHP - Lobeyasa Line	26.27		
		Total	14.40	220kV BHP - Tsirang Line	-79.94		
5	2 x 20MW BHP (L/S)	Unit-I	13.61	5MVA, 66/11kV TFR	0.59		
		Unit-II	13.09	30MVA ICT, 220/66kV (HV)	12.73		
		Total	26.70	Auxiliary Consumption & Transformation Losses at Generator end	1.46%		
6	2 x 63MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	59.56	Unit I on Stanby. 220kV DHP_Dagapela line on standby.	
		Unit-II	59.96	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	54.10		
		-	-	5MVA, 220/33kV TFR	0.30		
Total	59.96	Auxiliary Consumption & Transformation Losses at Generator end	0.17%				
7	4 x 15MW KHP	Unit-I	12.59	132kV KHP - Nangkor Line	29.03		
		Unit-II	12.56	132kV KHP - Kilikhar Line	20.42		
		Unit-III	12.56	5MVA, 132/11kV TFR	0.31		
		Unit-IV	12.60	132kV Motanga - Rangia Line	36.01		
		Total	50.31	Auxiliary Consumption & Transformation Losses at Generator end	1.09%		
8	2 x 59MW NHP	Unit-I	25.03	132kV NHP-MHP-I	24.79		
		Unit-II	45.04	132kV NHP-MHP-II	44.70		
		Total	70.07	Auxiliary Consumption & Transformation Losses at Generator end	0.83%		

Note: Generation-Load Summary (MW) for 02-Nov-2024 at 18:00 hrs

Sl. No.	Region	Total Generation	Total Load (Gen. - Exp.)	Total Load (Feeder Summation)	Total Export/Import	Auxiliary Consumption & Transformation Losses
1	Western Grid	852.64	709.21	788.61	167.63	0.60
2	Eastern Grid	492.26	172.51	171.31	295.55	1.20
	Total	1,344.90	881.72	879.92	463.18	1.80

Note: Generation-Load Summary (MW) for 02-Nov-2023, at 18:00 hrs

Sl. No.	Region	Total Generation	Total Load (Gen. - Exp.)	Total Load (Feeder Summation)	Total Export/Import	Auxiliary Consumption & Transformation Losses
1	Western Grid	712.10	692.56	688.31	85.29	4.25
2	Eastern Grid	281.45	198.36	197.24	17.34	1.12
	Total	993.55	890.92	885.55	102.63	5.37

Note: Daily Energy (MUs) and Power(MW) Statistics for 02-Nov-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	12.08	0.00	20.23	32.46	579.63	0.00

- 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.