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

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	20-Nov-24	09:00 hrs		19-Nov-24	18:17:32 hrs	967.89

Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Remarks
1	6 x 170MW THP	Unit-I	121.55	400kV THP - Siliguri Line - I	0.00	Unit-II & Unit III on Standby. Unit-V under AMP. 400kV THP-MAL line under Shutdown. 400kV THP_SIL Line I on Standby.
		Unit-II	0.00	400kV THP - Siliguri Line - II	190.39	
		Unit-III	0.00	400kV THP - Siliguri Line - IV	179.16	
		Unit-IV	129.54	400kV THP - Malbase Line - III	0.00	
		Unit-V	0.00	400kV Malbase - Siliguri Line	-244.67	
		Unit-VI	118.95	-	-	
		Total	370.04	Auxiliary Consumption & Transformation Losses at Generator end	0.13%	
2	4 x 180MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Line - I	126.04	Unit-I under AMP. Unit-II on Standby. 400kV MHP-JLG Line II & IV on Standby. 132kV MHP_Yurmoo Line - I not in Service. 400kV JLG_ALI Interim Line I & 400kV JLG_ALI Direct Line I on Standby.
		Unit-II	0.00	400kV MHP - Jigmeling Line - II	0.00	
		Unit-III	136.83	400kV MHP - Jigmeling Line - III	126.45	
		Unit-IV	135.60	400kV MHP - Jigmeling Line - IV	0.00	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	63.41	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	147.27	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	41.46	
		-	-	400kV Jigmeling - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II	61.82	
		-	-	80MVA, 220/132kV ICT - I (HV)	20.68	
		-	-	80MVA, 220/132kV ICT - II (HV)	20.49	
		-	-	220kV Tsirang - Jigmeling Line	-94.31	
-	-	132kV Gelephu - Salakati Line	5.60			
Total	272.43	Auxiliary Consumption & Transformation Losses at Generator end	0.46%			
3	4 x 84MW CHP	Unit-I	0.00	220kV CHP - Birpara Line - I	-48.08	CHP Unit_I under AMP. 220kV CHP_Gedu Line under Shutdown.
		Unit-II	51.78	220kV CHP - Birpara Line - II	-47.53	
		Unit-III	50.08	220kV CHP - Gedu	0.00	
		Unit-IV	60.40	220kV CHP - Jamjee (old) - I	83.07	
		-	-	220kV CHP - Jamjee - II (new)	83.43	
		-	-	220kV CHP - Jamjee - III (new)	80.32	
		-	-	220kV Malbase - Birpara Line	-102.91	
		-	-	66kV CHP - Gedu Line	10.16	
-	-	3x3MVA, 66/11kV TFR	1.40			
Total	162.26	Auxiliary Consumption & Transformation Losses at Generator end	-0.31%			
4	2 x 12MW BHP (U/S)	Unit-I	5.07	220kV BHP - Semtokha Line	96.00	
		Unit-II	5.91	66kV BHP - Lobeysa Line	25.70	
Total	10.98	220kV BHP - Tsirang Line	-91.47			
5	2 x 20MW BHP (L/S)	Unit-I	10.07	5MVA, 66/11kV TFR	0.42	
		Unit-II	9.70	30MVA ICT, 220/66kV (HV)	15.75	
Total	19.77	Auxiliary Consumption & Transformation Losses at Generator end	0.33%			
6	2 x 63MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	0.00	Unit I on Standby. 220kV DHP_Tsirang line on Standby.
		Unit-II	42.17	220kV DHP - Dagapela Line	41.94	
		-	-	220kV Jigmeling - Dagapela Line	11.13	
		-	-	5MVA, 220/33kV TFR	0.20	
Total	42.17	Auxiliary Consumption & Transformation Losses at Generator end	0.07%			
7	4 x 15MW KHP	Unit-I	0.00	132kV KHP - Nangkhor Line	15.00	Unit-I on standby. KHP Unit-III under Shutdown.
		Unit-II	14.13	132kV KHP - Kilikhar Line	12.68	
		Unit-III	0.00	5MVA, 132/11kV TFR	0.30	
		Unit-IV	14.14	132kV Motanga - Rangia Line	16.47	
		Total	28.27	Auxiliary Consumption & Transformation Losses at Generator end	1.03%	
8	2 x 59MW NHP	Unit-I	0.00	132kV NHP-MHP-I	0.00	Unit-I under AMP. 132kV NHP-MHP line-I under shutdown.
		Unit-II	45.01	132kV NHP-MHP-II	44.71	
		Total	45.01	Auxiliary Consumption & Transformation Losses at Generator end	0.67%	

Note: Generation-Load Summary (MW) for 20-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	605.22	773.17	773.06	-73.64	0.11
2	Eastern Grid	345.71	126.05	124.22	125.35	1.83
Total		950.93	899.22	897.28	51.71	1.94

Note: Generation-Load Summary for 20-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	518.26	672.52	666.99	-55.98	5.53
2	Eastern Grid	216.24	182.51	181.34	-64.55	1.17
Total		734.50	855.03	848.33	-120.53	6.70

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Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	20-Nov-2024	18:00 hrs			19-Nov-2024	18:17:32 hrs	967.89
Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Remarks	
1	6 x 170MW THP	Unit-I	142.42	400kV THP - Siliguri Line - I	0.00	Unit-II & Unit III on Standby. Unit-V under AMP. 400kV THP-MAL line under Shutdown. 400kV THP-SIL Line I on standby.	
		Unit-II	0.00	400kV THP - Siliguri Line - II	207.14		
		Unit-III	0.00	400kV THP - Siliguri Line - IV	202.23		
		Unit-IV	129.14	400kV THP - Malbase Line - III	0.00		
		Unit-V	0.00	400kV Malbase - Siliguri Line	-257.96		
		Unit-VI	137.81		-		
		Total	409.37	Auxiliary Consumption & Transformation Losses at Generator end	0.00%		
2	4 x 180MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Line - I	124.92	Unit-I under AMP. Unit-II on Standby. 400kV MHP-JLG Line II on standby. 400kV MHP-JLG line IV on Standby. 132kV MHP_Yurmoo Line- I not in Service. 400kV JLG_ALI Interim Line I on Standby. 400kV JLG_ALI Direct Line I on Standby	
		Unit-II	0.00	400kV MHP - Jigmeling Line - II	0.00		
		Unit-III	137.41	400kV MHP - Jigmeling Line - III	125.34		
		Unit-IV	140.17	400kV MHP - Jigmeling Line - IV	0.00		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	65.78		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	172.73		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	29.82		
		-	-	400kV Jigmeling - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - II	45.82		
		-	-	80MVA, 220/132kV ICT - I (HV)	24.45		
		-	-	80MVA, 220/132kV ICT - II (HV)	24.20		
		-	-	220kV Tsirang - Jigmeling Line	-109.02		
		-	-	132kV Gelephu - Salakati Line	2.82		
Total	277.58	Auxiliary Consumption & Transformation Losses at Generator end	0.45%				
3	4 x 84MW CHP	Unit-I	0.00	220kV CHP - Birpara Line - I	-60.63	Unit-I under AMP	
		Unit-II	54.57	220kV CHP - Birpara Line - II	-60.03		
		Unit-III	59.14	220kV CHP - Gedu	28.90		
		Unit-IV	60.19	220kV CHP - Jamjee (old) - I	88.44		
				220kV CHP - Jamjee - II (new)	88.77		
				220kV CHP - Jamjee - III (new)	85.36		
		-	-	220kV Malbase - Birpara Line	-77.24		
		-	-	66kV CHP - Gedu Line	3.47		
		-	-	3x3MVA, 66/11kV TFR	2.03		
		Total	173.90	Auxiliary Consumption & Transformation Losses at Generator end	-1.39%		
4	2 x 12MW BHP (U/S)	Unit-I	5.08	220kV BHP - Semtokha Line	103.34		
		Unit-II	5.72	66kV BHP - Lobeyasa Line	28.49		
		Total	10.80	220kV BHP - Tsirang Line	-101.59		
5	2 x 20MW BHP (L/S)	Unit-I	10.28	5MVA, 66/11kV TFR	0.59		
		Unit-II	9.90	30MVA ICT, 220/66kV (HV)	18.84		
		Total	20.18	Auxiliary Consumption & Transformation Losses at Generator end	0.48%		
6	2 x 63MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	40.44	Unit I on Standby. 220kV DHP_Dagapela line on Standby.	
		Unit-II	40.68	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	14.04		
		-	-	5MVA, 220/33kV TFR	0.20		
		Total	40.68	Auxiliary Consumption & Transformation Losses at Generator end	0.10%		
7	4 x 15MW KHP	Unit-I	13.40	132kV KHP - Nangkor Line	20.19	Unit-III under AMP	
		Unit-II	13.47	132kV KHP - Kilikhar Line	19.24		
		Unit-III	0.00	5MVA, 132/11kV TFR	0.48		
		Unit-IV	13.45	132kV Motanga - Rangia Line	24.36		
		Total	40.32	Auxiliary Consumption & Transformation Losses at Generator end	1.02%		
8	2 x 59MW NHP	Unit-I	0.00	132kV NHP-MHP-I	0.00	Unit-I under AMP 132kV NHP-MHP line-I under shutdown.	
		Unit-II	40.04	132kV NHP-MHP-II	39.72		
		Total	40.04	Auxiliary Consumption & Transformation Losses at Generator end	0.80%		
Note: Generation-Load Summary (MW) for 20-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	654.93	810.44	812.66	-46.49	-2.22	
2	Eastern Grid	357.94	146.10	144.11	102.82	1.99	
	Total	1,012.87	956.54	956.77	56.33	-0.23	
Note: Generation-Load Summary (MW) for 20-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	521.02	648.02	639.77	-9.11	8.25	
2	Eastern Grid	216.03	192.52	189.53	-94.28	2.99	
	Total	737.05	840.54	829.30	-103.39	11.24	
Note: Daily Energy (MUs) and Power(MW) Statistics for 20-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	1.11	0.00	21.14	22.20	72.06	-0.08	

1. 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.