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

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	29-Nov-24	09:00 hrs		28-Nov-24	18:31:35 hrs	993.771

Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Remarks
1	6 x 170MW THP	Unit-I	140.42	400kV THP - Siliguri Line - I	0.00	400kV THP_SIL Line I on Standby. Unit-II & Unit III on Standby. Unit-V under AMP. 400kV THP-MAL line under Shutdown.
		Unit-II	0.00	400kV THP - Siliguri Line - II	208.17	
		Unit-III	0.00	400kV THP - Siliguri Line - IV	197.93	
		Unit-IV	123.41	400kV THP - Malbase Line - III	0.00	
		Unit-V	0.00	400kV Malbase - Siliguri Line	-238.39	
		Unit-VI	144.66	-	-	
		Total	408.49	Auxiliary Consumption & Transformation Losses at Generator end	0.59%	
2	4 x 180MW MHP	Unit-I	165.84	400kV MHP - Jigmeling Line - I	122.07	Unit-II on Standby Unit-IV under AMP 400kV MHP-JLG Line II & IV on Standby. 132kV MHP_Yurmo 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	115.64	400kV MHP - Jigmeling Line - III	122.75	
		Unit-IV	0.00	400kV MHP - Jigmeling Line - IV	0.00	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	63.51	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	169.82	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	30.21	
		-	-	400kV Jigmeling - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II	44.54	
		-	-	80MVA, 220/132kV ICT - I (HV)	20.53	
		-	-	80MVA, 220/132kV ICT - II (HV)	20.34	
		-	-	220kV Tsirang - Jigmeling Line	-74.70	
		-	-	132kV Gelephu - Salakati Line	-1.33	
Total	281.48	Auxiliary Consumption & Transformation Losses at Generator end	0.33%			
3	4 x 84MW CHP	Unit-I	0.00	220kV CHP - Birpara Line - I	-60.87	Unit-I under AMP.
		Unit-II	54.74	220kV CHP - Birpara Line - II	-60.27	
		Unit-III	53.44	220kV CHP - Gedu	32.31	
		Unit-IV	61.98	220kV CHP - Jamjee (old) - I	84.84	
		-	-	220kV CHP - Jamjee - II (new)	85.33	
		-	-	220kV CHP - Jamjee - III (new)	82.13	
		-	-	220kV Malbase - Birpara Line	-81.30	
		-	-	66kV CHP - Gedu Line	6.76	
		-	-	3x3MVA, 66/11kV TFR	1.68	
Total	170.16	Auxiliary Consumption & Transformation Losses at Generator end	-1.03%			
4	2 x 12MW BHP (U/S)	Unit-I	9.50	220kV BHP - Semtokha Line	106.52	U/S Unit-II under AMP. L/S Unit-I on standby
		Unit-II	0.00	66kV BHP - Lobeyasa Line	27.33	
Total	9.50	Auxiliary Consumption & Transformation Losses at Generator end	-106.73			
5	2 x 20MW BHP (L/S)	Unit-I	0.00	5MVA, 66/11kV TFR	0.51	U/S Unit-II under AMP. L/S Unit-I on standby
		Unit-II	17.90	30MVA ICT, 220/66kV (HV)	18.84	
Total	17.90	Auxiliary Consumption & Transformation Losses at Generator end	-0.84%			
6	2 x 63MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	35.74	Unit I on Standby. 220kV DHP_Dagapela line on Standby.
		Unit-II	35.98	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	53.47	
		-	-	5MVA, 220/33kV TFR	0.25	
Total	35.98	Auxiliary Consumption & Transformation Losses at Generator end	-0.03%			
7	4 x 15MW KHP	Unit-I	0.00	132kV KHP - Nangkhor Line	17.94	Unit-I on standby and Unit-III under AMP.
		Unit-II	16.57	132kV KHP - Kilikhar Line	14.53	
		Unit-III	0.00	5MVA, 132/11kV TFR	0.28	
		Unit-IV	16.58	132kV Motanga - Rangia Line	2.14	
		Total	33.15	Auxiliary Consumption & Transformation Losses at Generator end	1.21%	
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	27.97	132kV NHP-MHP-II	27.79	
		Total	27.97	Auxiliary Consumption & Transformation Losses at Generator end	0.64%	

Note: Generation-Load Summary (MW) for 29-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	642.03	751.46	751.06	-34.73	0.40
2	Eastern Grid	342.60	192.34	190.82	75.56	1.52
Total		984.63	943.80	941.88	40.83	1.92

Note: Generation-Load Summary for 29-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	523.83	693.72	686.82	-65.60	6.90
2	Eastern Grid	230.37	181.00	178.39	-54.92	2.61
Total		754.20	874.72	865.21	-120.52	9.51

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 30-Nov-2024(-ve:import, +ve:export)							
Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	29-Nov-2024	18:00 hrs			28-Nov-2024	18:31:35 hrs	993.771
Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Remarks	
1	6 x 170MW THP	Unit-I	132.78	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	200.05		
		Unit-III	0.00	400kV THP - Siliguri Line - IV	187.96		
		Unit-IV	126.45	400kV THP - Malbase Line - III	0.00		
		Unit-V	0.00	400kV Malbase - Siliguri Line	-302.87		
		Unit-VI	129.43		-		
		Total	388.58	Auxiliary Consumption & Transformation Losses at Generator end	0.15%		
2	4 x 180MW MHP	Unit-I	179.75	400kV MHP - Jigmeling Line - I	132.19	Unit-II on Standby. Unit-IV under AMP. 400kV MHP-JLG Line III under Shutdown. 400kV MHP-JLG Line IV on Standby. 132kV MHP_Yurmo 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	132.18		
		Unit-III	112.33	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	0.00	400kV MHP - Jigmeling Line - IV	0.00		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	65.84		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	0.00		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	105.31		
		-	-	400kV Jigmeling - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - II	157.96		
		-	-	80MVA, 220/132kV ICT - I (HV)	-13.96		
		-	-	80MVA, 220/132kV ICT - II (HV)	-13.93		
		-	-	220kV Tsirang - Jigmeling Line	25.84		
-	-	132kV Gelephu - Salakati Line	-59.77				
Total	292.08	Auxiliary Consumption & Transformation Losses at Generator end	0.55%				
3	4 x 84MW CHP	Unit-I	0.00	220kV CHP - Birpara Line - I	-97.36	Unit-I under AMP.	
		Unit-II	52.68	220kV CHP - Birpara Line - II	-96.76		
		Unit-III	53.95	220kV CHP - Gedu	-29.14		
		Unit-IV	55.87	220kV CHP - Jamjee (old) - I	127.75		
				220kV CHP - Jamjee - II (new)	127.92		
				220kV CHP - Jamjee - III (new)	123.56		
		-	-	220kV Malbase - Birpara Line	-94.11		
		-	-	66kV CHP - Gedu Line	6.20		
		-	-	3x3MVA, 66/11kV TFR	2.07		
		Total	162.50	Auxiliary Consumption & Transformation Losses at Generator end	-1.07%		
4	2 x 12MW BHP (U/S)	Unit-I	9.60	220kV BHP - Semtokha Line	4.90	U/S unit-II under AMP. L/S Unit-I on Standby	
		Unit-II	0.00	66kV BHP - Lobeyasa Line	26.67		
		Total	9.60	220kV BHP - Tsirang Line	-5.59		
5	2 x 20MW BHP (L/S)	Unit-I	0.00	5MVA, 66/11kV TFR	0.91		
		Unit-II	18.00	30MVA ICT, 220/66kV (HV)	-1.57		
		Total	18.00	Auxiliary Consumption & Transformation Losses at Generator end	2.57%		
6	2 x 63MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	35.72	Unit I on Standby. 220kV DHP_Dagapela line on Standby.	
		Unit-II	35.99	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	54.63		
		-	-	5MVA, 220/33kV TFR	0.20		
Total	35.99	Auxiliary Consumption & Transformation Losses at Generator end	0.19%				
7	4 x 15MW KHP	Unit-I	13.19	132kV KHP - Nangkor Line	10.90	Unit-II on Standby. Unit-III under AMP.	
		Unit-II	0.00	132kV KHP - Kilikhar Line	14.88		
		Unit-III	0.00	5MVA, 132/11kV TFR	0.40		
		Unit-IV	13.21	132kV Motanga - Rangia Line	-13.48		
		Total	26.40	Auxiliary Consumption & Transformation Losses at Generator end	0.83%		
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	39.99	132kV NHP-MHP-II	39.74		
		Total	39.99	Auxiliary Consumption & Transformation Losses at Generator end	0.63%		

Note: Generation-Load Summary (MW) for 29-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	614.67	791.92	792.31	-203.09	-0.39
2	Eastern Grid	358.47	194.29	192.21	190.02	2.08
	Total	973.14	986.21	984.52	-13.07	1.69

Note: Generation-Load Summary (MW) for 29-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	549.46	722.81	713.38	-53.35	9.43
2	Eastern Grid	240.23	196.82	193.10	-76.59	3.72
	Total	789.69	919.63	906.48	-129.94	13.15

Note: Daily Energy (MUs) and Power(MW) Statistics for 29-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	0.39	0.00	21.71	19.51	-284.92	-2.62

- 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 900hrs) 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.