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

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	21-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	122.35	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	194.39	
		Unit-III	0.00	400kV THP - Siliguri Line - IV	185.15	
		Unit-IV	128.29	400kV THP - Malbase Line - III	0.00	
		Unit-V	0.00	400kV Malbase - Siliguri Line	-234.63	
		Unit-VI	129.24	-	-	
		Total	379.88	Auxiliary Consumption & Transformation Losses at Generator end	0.09%	
2	4 x 180MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Line - I	118.93	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	91.95	400kV MHP - Jigmeling Line - III	119.38	
		Unit-IV	161.62	400kV MHP - Jigmeling Line - IV	0.00	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	63.62	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	148.00	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	34.75	
		-	-	400kV Jigmeling - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II	52.46	
		-	-	80MVA, 220/132kV ICT - I (HV)	17.43	
		-	-	80MVA, 220/132kV ICT - II (HV)	17.52	
		-	-	220kV Tsirang - Jigmeling Line	-100.89	
		-	-	132kV Gelephu - Salakati Line	3.96	
Total	253.57	Auxiliary Consumption & Transformation Losses at Generator end	0.52%			
3	4 x 84MW CHP	Unit-I	0.00	220kV CHP - Birpara Line - I	-59.50	CHP Unit_I under AMP.
		Unit-II	44.90	220kV CHP - Birpara Line - II	-59.95	
		Unit-III	60.23	220kV CHP - Gedu	35.39	
		Unit-IV	60.12	220kV CHP - Jamjee (old) - I	82.52	
		-	-	220kV CHP - Jamjee - II (new)	82.70	
		-	-	220kV CHP - Jamjee - III (new)	80.13	
		-	-	220kV Malbase - Birpara Line	-80.24	
		-	-	66kV CHP - Gedu Line	2.24	
		-	-	3x3MVA, 66/11kV TFR	1.42	
Total	165.25	Auxiliary Consumption & Transformation Losses at Generator end	0.18%			
4	2 x 12MW BHP (U/S)	Unit-I	5.00	220kV BHP - Semtokha Line	106.70	
		Unit-II	5.20	66kV BHP - Lobeyasa Line	29.01	
Total	10.20	Auxiliary Consumption & Transformation Losses at Generator end	-105.20			
5	2 x 20MW BHP (L/S)	Unit-I	10.10	5MVA, 66/11kV TFR	0.69	
		Unit-II	10.10	30MVA ICT, 220/66kV (HV)	19.52	
Total	20.20	Auxiliary Consumption & Transformation Losses at Generator end	-2.63%			
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	40.43	220kV DHP - Dagapela Line	40.21	
		-	-	220kV Jigmeling - Dagapela Line	13.93	
		-	-	5MVA, 220/33kV TFR	0.20	
Total	40.43	Auxiliary Consumption & Transformation Losses at Generator end	0.05%			
7	4 x 15MW KHP	Unit-I	0.00	132kV KHP - Nangkhor Line	17.59	Unit-I on standby. KHP Unit-III under Shutdown.
		Unit-II	16.24	132kV KHP - Kilikhar Line	14.00	
		Unit-III	0.00	5MVA, 132/11kV TFR	0.44	
		Unit-IV	16.22	132kV Motanga - Rangia Line	11.92	
		Total	32.46	Auxiliary Consumption & Transformation Losses at Generator end	1.32%	
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	50.00	132kV NHP-MHP-II	49.69	
		Total	50.00	Auxiliary Consumption & Transformation Losses at Generator end	0.62%	

Note: Generation-Load Summary (MW) for 21-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	615.96	771.63	771.77	-54.78	-0.14
2	Eastern Grid	336.03	132.05	129.98	103.09	2.07
Total		951.99	903.68	901.75	48.31	1.93

Note: Generation-Load Summary for 21-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	515.21	686.75	682.60	-81.49	4.15
2	Eastern Grid	216.17	191.87	190.46	-65.75	1.41
Total		731.38	878.62	873.06	-147.24	5.56

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 22-Nov-2024(-ve:import, +ve:export)							
Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	21-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	142.26	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	209.08		
		Unit-III	0.00	400kV THP - Siliguri Line - IV	205.10		
		Unit-IV	128.42	400kV THP - Malbase Line - III	0.00		
		Unit-V	0.00	400kV Malbase - Siliguri Line	-258.47		
		Unit-VI	144.50		-		
		Total	415.18	Auxiliary Consumption & Transformation Losses at Generator end	0.24%		
2	4 x 180MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Line - I	108.93	Unit-I under spin. 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	100.23	400kV MHP - Jigmeling Line - III	109.54		
		Unit-IV	145.20	400kV MHP - Jigmeling Line - IV	0.00		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	65.57		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	165.68		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	19.64		
		-	-	400kV Jigmeling - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - II	30.55		
		-	-	80MVA, 220/132kV ICT - I (HV)	26.01		
		-	-	80MVA, 220/132kV ICT - II (HV)	24.95		
		-	-	220kV Tsirang - Jigmeling Line	-100.49		
		-	-	132kV Gelephu - Salakati Line	3.13		
Total	245.43	Auxiliary Consumption & Transformation Losses at Generator end	0.47%				
3	4 x 84MW CHP	Unit-I	0.00	220kV CHP - Birpara Line - I	-49.11	Unit-I under AMP	
		Unit-II	64.50	220kV CHP - Birpara Line - II	-48.77		
		Unit-III	52.90	220kV CHP - Gedu	0.00		
		Unit-IV	61.07	220kV CHP - Jamjee (old) - I	91.80		
				220kV CHP - Jamjee - II (new)	92.15		
				220kV CHP - Jamjee - III (new)	88.83		
		-	-	220kV Malbase - Birpara Line	-84.90		
		-	-	66kV CHP - Gedu Line	3.41		
		-	-	3x3MVA, 66/11kV TFR	1.95		
		Total	178.47	Auxiliary Consumption & Transformation Losses at Generator end	-1.00%		
4	2 x 12MW BHP (U/S)	Unit-I	10.41	220kV BHP - Semtokha Line	96.89	L/S Unit-I & U/S unit-II under standby.	
		Unit-II	0.00	66kV BHP - Lobeyasa Line	28.85		
		Total	10.41	220kV BHP - Tsirang Line	-96.06		
5	2 x 20MW BHP (L/S)	Unit-I	0.00	5MVA, 66/11kV TFR	0.70	L/S Unit-I & U/S unit-II under standby.	
		Unit-II	19.80	30MVA ICT, 220/66kV (HV)	19.57		
		Total	19.80	Auxiliary Consumption & Transformation Losses at Generator end	-0.56%		
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	40.46	220kV DHP - Dagapela Line	40.21		
		-	-	220kV Jigmeling - Dagapela Line	14.07		
		-	-	5MVA, 220/33kV TFR			
Total	40.46	Auxiliary Consumption & Transformation Losses at Generator end	0.62%				
7	4 x 15MW KHP	Unit-I	0.00	132kV KHP - Nangkor Line	14.60	Unit-I on standby. Unit-III under AMP	
		Unit-II	16.33	132kV KHP - Kilikhar Line	17.38		
		Unit-III	0.00	5MVA, 132/11kV TFR	0.36		
		Unit-IV	16.35	132kV Motanga - Rangia Line	15.00		
		Total	32.68	Auxiliary Consumption & Transformation Losses at Generator end	1.04%		
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	39.76		
		Total	40.04	Auxiliary Consumption & Transformation Losses at Generator end	0.70%		

Note: Generation-Load Summary (MW) for 21-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	664.32	791.88	792.59	-27.07	-0.71
2	Eastern Grid	318.15	149.34	147.57	68.32	1.77
	Total	982.47	941.22	940.16	41.25	1.06

Note: Generation-Load Summary (MW) for 21-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	514.75	724.88	719.44	-94.4	5.44
2	Eastern Grid	217.09	170.17	166.97	-68.81	3.20
	Total	731.84	895.05	886.41	-163.21	8.64

Note: Daily Energy (MUs) and Power(MW) Statistics for 21-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	1.19	0.00	20.91	22.11	102.97	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 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.