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

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	27-Nov-24	09:00 hrs		24-Nov-24	17:57:28 hrs	981.169

Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Remarks
1	6 x 170MW THP	Unit-I	150.14	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	204.40	
		Unit-III	0.00	400kV THP - Siliguri Line - IV	193.40	
		Unit-IV	127.66	400kV THP - Malbase Line - III	0.00	
		Unit-V	0.00	400kV Malbase - Siliguri Line	-236.73	
		Unit-VI	119.49	-	-	
		Total	397.29	Auxiliary Consumption & Transformation Losses at Generator end	-0.15%	
2	4 x 180MW MHP	Unit-I	139.76	400kV MHP - Jigmeling Line - I	127.93	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	141.90	400kV MHP - Jigmeling Line - III	128.47	
		Unit-IV	0.00	400kV MHP - Jigmeling Line - IV	0.00	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	63.50	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	152.41	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	60.98	
		-	-	400kV Jigmeling - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II	40.91	
		-	-	80MVA, 220/132kV ICT - I (HV)	-21.65	
		-	-	80MVA, 220/132kV ICT - II (HV)	-21.46	
		-	-	220kV Tsirang - Jigmeling Line	-77.27	
		-	-	132kV Gelephu - Salakati Line	3.96	
Total	281.66	Auxiliary Consumption & Transformation Losses at Generator end	0.53%			
3	4 x 84MW CHP	Unit-I	0.00	220kV CHP - Birpara Line - I	-60.51	Unit-I under AMP.
		Unit-II	60.56	220kV CHP - Birpara Line - II	-60.20	
		Unit-III	50.52	220kV CHP - Gedu	28.90	
		Unit-IV	49.54	220kV CHP - Jamjee (old) - I	82.17	
		-	-	220kV CHP - Jamjee - II (new)	82.49	
		-	-	220kV CHP - Jamjee - III (new)	79.71	
		-	-	220kV Malbase - Birpara Line	-77.93	
		-	-	66kV CHP - Gedu Line	7.02	
-	-	3x3MVA, 66/11kV TFR	1.74			
Total	160.62	Auxiliary Consumption & Transformation Losses at Generator end	-0.44%			
4	2 x 12MW BHP (U/S)	Unit-I	0.00	220kV BHP - Semtokha Line	111.40	U/S Unit-I Under shutdown.
		Unit-II	9.71	66kV BHP - Lobeyasa Line	28.03	
Total	9.71	220kV BHP - Tsirang Line	-110.30			
5	2 x 20MW BHP (L/S)	Unit-I	9.69	5MVA, 66/11kV TFR	0.47	U/S Unit-I Under shutdown.
		Unit-II	9.35	30MVA ICT, 220/66kV (HV)	18.83	
Total	19.04	Auxiliary Consumption & Transformation Losses at Generator end	-2.96%			
6	2 x 63MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	37.43	Unit I on Standby. 220kV DHP_Dagapela line on Standby.
		Unit-II	37.66	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	31.17	
		-	-	5MVA, 220/33kV TFR	0.25	
Total	37.66	Auxiliary Consumption & Transformation Losses at Generator end	-0.05%			
7	4 x 15MW KHP	Unit-I	11.13	132kV KHP - Nangkhor Line	18.64	Unit-III under AMP.
		Unit-II	11.15	132kV KHP - Kilikhar Line	14.21	
		Unit-III	0.00	5MVA, 132/11kV TFR	0.27	
		Unit-IV	11.16	132kV Motanga - Rangia Line	8.92	
		Total	33.44	Auxiliary Consumption & Transformation Losses at Generator end	0.96%	
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	40.00	132kV NHP-MHP-II	39.74	
		Total	40.00	Auxiliary Consumption & Transformation Losses at Generator end	0.65%	

Note: Generation-Load Summary (MW) for 27-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	624.32	739.08	741.24	-37.49	-2.16
2	Eastern Grid	355.10	163.06	160.98	114.77	2.08
Total		979.42	902.14	902.22	77.28	-0.08

Note: Generation-Load Summary for 27-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	478.92	688.89	683.87	-105.17	5.02
2	Eastern Grid	198.90	137.37	135.76	-43.27	1.61
Total		677.82	826.26	819.63	-148.44	6.63

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	27-Nov-2024	18:00 hrs			24-Nov-2024	17:57:28 hrs	981.169
Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Remarks	
1	6 x 170MW THP	Unit-I	151.09	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	228.92		
		Unit-III	0.00	400kV THP - Siliguri Line - IV	215.28		
		Unit-IV	137.45	400kV THP - Malbase Line - III	0.00		
		Unit-V	0.00	400kV Malbase - Siliguri Line	-268.28		
		Unit-VI	153.50		-		
		Total	442.04	Auxiliary Consumption & Transformation Losses at Generator end	-0.49%		
2	4 x 180MW MHP	Unit-I	139.76	400kV MHP - Jigmeling Line - I	127.93	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	141.90	400kV MHP - Jigmeling Line - III	128.47		
		Unit-IV	0.00	400kV MHP - Jigmeling Line - IV	0.00		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	63.50		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	170.91		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	27.68		
		-	-	400kV Jigmeling - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - II	40.81		
		-	-	80MVA, 220/132kV ICT - I (HV)	26.05		
		-	-	80MVA, 220/132kV ICT - II (HV)	25.73		
		-	-	220kV Tsirang - Jigmeling Line	-89.97		
		-	-	132kV Gelephu - Salakati Line	-1.00		
Total	281.66	Auxiliary Consumption & Transformation Losses at Generator end	0.51%				
3	4 x 84MW CHP	Unit-I	0.00	220kV CHP - Birpara Line - I	-66.65	Unit-I under AMP.	
		Unit-II	59.56	220kV CHP - Birpara Line - II	-66.30		
		Unit-III	50.57	220kV CHP - Gedu	8.81		
		Unit-IV	49.76	220kV CHP - Jamjee (old) - I	92.80		
				220kV CHP - Jamjee - II (new)	93.25		
				220kV CHP - Jamjee - III (new)	90.04		
		-	-	220kV Malbase - Birpara Line	-72.96		
		-	-	66kV CHP - Gedu Line	6.70		
		-	-	3x3MVA, 66/11kV TFR	2.14		
		Total	159.89	Auxiliary Consumption & Transformation Losses at Generator end	-0.56%		
4	2 x 12MW BHP (U/S)	Unit-I	0.00	220kV BHP - Semtokha Line	110.00	U/S unit-I & II under Shutdown	
		Unit-II	0.00	66kV BHP - Lobeyasa Line	26.40		
		Total	0.00	220kV BHP - Tsirang Line	-121.26		
5	2 x 20MW BHP (L/S)	Unit-I	8.06	5MVA, 66/11kV TFR	0.74	U/S unit-I & II under Shutdown	
		Unit-II	7.85	30MVA ICT, 220/66kV (HV)	27.42		
		Total	15.91	Auxiliary Consumption & Transformation Losses at Generator end	0.19%		
6	2 x 63MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	37.73	Unit I on Standby. 220kV DHP_Dagapela line on Standby.	
		Unit-II	37.97	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	28.83		
		-	-	5MVA, 220/33kV TFR	0.20		
Total	37.97	Auxiliary Consumption & Transformation Losses at Generator end	0.11%				
7	4 x 15MW KHP	Unit-I	11.11	132kV KHP - Nangkor Line	15.08	Unit-III under AMP.	
		Unit-II	11.13	132kV KHP - Kilikhar Line	17.61		
		Unit-III	0.00	5MVA, 132/11kV TFR	0.41		
		Unit-IV	11.18	132kV Motanga - Rangia Line	10.12		
		Total	33.42	Auxiliary Consumption & Transformation Losses at Generator end	0.96%		
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	40.02	132kV NHP-MHP-II	39.69		
		Total	40.02	Auxiliary Consumption & Transformation Losses at Generator end	0.82%		

Note: Generation-Load Summary (MW) for 27-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	655.81	775.77	778.76	-29.99	-2.99
2	Eastern Grid	355.10	187.52	185.42	77.61	2.10
	Total	1,010.91	963.29	964.18	47.62	-0.89

Note: Generation-Load Summary (MW) for 27-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	475.62	704.04	704.05	-100.69	-0.01
2	Eastern Grid	199.05	144.01	141.39	-72.69	2.62
	Total	674.67	848.05	845.44	-173.38	2.61

Note: Daily Energy (MUs) and Power(MW) Statistics for 27-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	0.64	0.00	21.43	19.94	-351.64	-2.18

- 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.