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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 09-Oct-2024(-ve:import, +ve:export)

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	08-Oct-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	184.66	400kV THP - Siliguri Line - I	238.91	
		Unit- II	185.69	400kV THP - Siliguri Line - II	238.30	
		Unit- III	185.24	400kV THP - Siliguri Line - IV	229.72	
		Unit- IV	181.84	400kV THP - Malbase Line - III	482.30	
		Unit- V	186.03	400kV Malbase - Siliguri Line	189.81	
		Unit- VI	185.66	-	-	
		Total	1,109.12	Auxiliary Consumption & Transformation Losses at Generator end	-0.01%	
2	4 x 180MW MHP	Unit-I	179.90	400kV MHP - Jigmeling Line - I	0.00	400kV MHP-JLG Line I on under maintenance. 132kV MHP_Yurmo Line - I not in Service. 400kV JLG_ALI Interim Line II on Standby.
		Unit-II	197.80	400kV MHP - Jigmeling Line - II	236.36	
		Unit-III	165.40	400kV MHP - Jigmeling Line - III	245.04	
		Unit-IV	180.30	400kV MHP - Jigmeling Line - IV	243.50	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	61.57	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	59.64	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	164.56	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I	246.55	
		-	-	400kV Jigmeling - Alipurduar Line - II	247.27	
		-	-	80MVA, 220/132kV ICT - I (HV)	19.75	
		-	-	80MVA, 220/132kV ICT - II (HV)	19.62	
		-	-	220kV Tsirang - Jigmeling Line	32.55	
		-	-	132kV Gelephu - Salakati Line	13.77	
Total	723.40	Auxiliary Consumption & Transformation Losses at Generator end	0.19%			
3	4 x 84MW CHP	Unit- I	91.48	220kV CHP - Birpara Line - I	29.93	
		Unit- II	91.26	220kV CHP - Birpara Line - II	30.98	
		Unit- III	91.29	220kV CHP - Gedu	113.47	
		Unit- IV	91.33	220kV CHP - Jamjee (old) - I	58.73	
		-	-	220kV CHP - Jamjee - II (new)	60.51	
		-	-	220kV CHP - Jamjee - III (new)	58.37	
		-	-	220kV Malbase - Birpara Line	3.91	
		-	-	66kV CHP - Gedu Line	8.38	
		-	-	3x3MVA, 66/11kV TFR	0.79	
Total	365.36	Auxiliary Consumption & Transformation Losses at Generator end	1.15%			
4	2 x 12MW BHP (U/S)	Unit- I	11.94	220kV BHP - Semtokha Line	127.00	
		Unit- II	12.22	66kV BHP - Lobeyasa Line	27.34	
		Total	24.16	220kV BHP - Tsirang Line	-89.22	
5	2 x 20MW BHP (L/S)	Unit- I	21.13	5MVA, 66/11kV TFR	0.39	
		Unit- II	20.35	30MVA ICT, 220/66kV (HV)	4.19	
		Total	41.48	Auxiliary Consumption & Transformation Losses at Generator end	0.20%	
6	2 x 63MW DHP	Unit-I	63.56	220kV DHP - Tsirang Line	126.15	220kV DHP_Dagapela Line on Standby.
		Unit-II	62.92	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	52.87	
		-	-	5MVA, 220/33kV TFR	0.20	
Total	126.48	Auxiliary Consumption & Transformation Losses at Generator end	0.10%			
7	4 x 15MW KHP	Unit- I	16.57	132kV KHP - Nangkor Line	43.95	
		Unit-II	16.50	132kV KHP - Kilikhar Line	21.45	
		Unit- III	16.38	5MVA, 132/11kV TFR	0.27	
		Unit- IV	16.71	132kV Motanga - Rangia Line	38.50	
		Total	66.16	Auxiliary Consumption & Transformation Losses at Generator end	0.74%	
8	2 x 59MW NHP	Unit-I	64.94	132kV NHP-MHP-I	64.43	Unit II under Shutdown & 132KV NHP-MHP Line II on Standby
		Unit-II	0.00	132kV NHP-MHP-II	0.00	
		Total	64.94	Auxiliary Consumption & Transformation Losses at Generator end	0.79%	

Note: Generation-Load Summary (MW) for 08-Oct-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	1,666.60	672.49	668.14	961.56	4.35
2	Eastern Grid	854.50	176.40	174.04	710.65	2.36
Total		2,521.10	848.89	842.18	1,672.21	6.71

Note: Generation-Load Summary for 08-Oct-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	1,651.55	654.51	644.14	988.05	10.37
2	Eastern Grid	587.75	176.93	174.80	419.81	2.13
Total		2,239.30	831.44	818.94	1,407.86	12.50

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 09-Oct-2024(-ve:import, +ve:export)							
Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	8-Oct-2024	19:00 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	185.13	400kV THP - Siliguri Line - I	228.41		
		Unit-II	185.85	400kV THP - Siliguri Line - II	226.93		
		Unit-III	185.73	400kV THP - Siliguri Line - IV	217.84		
		Unit-IV	184.74	400kV THP - Malbase Line - III	440.76		
		Unit-V	186.46	400kV Malbase - Siliguri Line	165.42		
		Unit-VI	185.49	-	-		
		Total	1,113.40	Auxiliary Consumption & Transformation Losses at Generator end	-0.05%		
2	4 x 180MW MHP	Unit-I	164.73	400kV MHP - Jigmeling Line - I	0.00	400kV MHP-JLG Line I under maintenance. 132kV MHP_Yurmo Line- I not in Service. 400kV JLG_ALI Interim Line II on Standby.	
		Unit-II	197.83	400kV MHP - Jigmeling Line - II	217.90		
		Unit-III	165.53	400kV MHP - Jigmeling Line - III	226.16		
		Unit-IV	75.27	400kV MHP - Jigmeling Line - IV	224.50		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	62.10		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	91.27		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	143.27		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - I	213.82		
		-	-	400kV Jigmeling - Alipurduar Line - II	213.82		
		-	-	80MVA, 220/132kV ICT - I (HV)	34.64		
		-	-	80MVA, 220/132kV ICT - II (HV)	34.36		
		-	-	220kV Tsirang - Jigmeling Line	31.16		
		-	-	132kV Gelephu - Salakati Line	17.77		
Total	603.36	Auxiliary Consumption & Transformation Losses at Generator end	0.23%				
3	4 x 84MW CHP	Unit-I	91.48	220kV CHP - Birpara Line - I	33.33		
		Unit-II	91.26	220kV CHP - Birpara Line - II	34.01		
		Unit-III	91.29	220kV CHP - Gedu	85.46		
		Unit-IV	91.33	220kV CHP - Jamjee (old) - I	65.62		
		-	-	220kV CHP - Jamjee - II (new)	67.59		
		-	-	220kV CHP - Jamjee - III (new)	65.33		
		-	-	220kV Malbase - Birpara Line	31.41		
		-	-	66kV CHP - Gedu Line	8.03		
		-	-	3x3MVA, 66/11kV TFR	0.94		
Total	365.36	Auxiliary Consumption & Transformation Losses at Generator end	1.38%				
4	2 x 12MW BHP (U/S)	Unit-I	11.95	220kV BHP - Sento Kha Line	125.00		
		Unit-II	12.16	66kV BHP - Lobeysa Line	29.90		
		Total	24.11	220kV BHP - Tsirang Line	-90.00		
5	2 x 20MW BHP (L/S)	Unit-I	21.15	5MVA, 66/11kV TFR	0.61		
		Unit-II	20.35	30MVA ICT, 220/66kV (HV)	7.03		
		Total	41.50	Auxiliary Consumption & Transformation Losses at Generator end	0.15%		
6	2 x 63MW DHP	Unit-I	63.55	220kV DHP - Tsirang Line	126.16	220kV DHP_Dagapela Line on Standby.	
		Unit-II	63.21	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	53.54		
		-	-	5MVA, 220/33kV TFR	0.30		
Total	126.76	Auxiliary Consumption & Transformation Losses at Generator end	0.24%				
7	4 x 15MW KHP	Unit-I	16.51	132kV KHP - Nangkor Line	40.90		
		Unit-II	16.56	132kV KHP - Kilikhar Line	24.24		
		Unit-III	16.50	5MVA, 132/11kV TFR	0.37		
		Unit-IV	16.56	132kV Motanga - Rangia Line	53.90		
Total	66.13	Auxiliary Consumption & Transformation Losses at Generator end	0.94%				
8	2 x 59MW NHP	Unit-I	64.69	132kV NHP-MHP-I	64.29		
		Unit-II	64.78	132kV NHP-MHP-II	64.38		
		Total	129.47	Auxiliary Consumption & Transformation Losses at Generator end	0.62%		

Note: Generation-Load Summary (MW) for 08-Oct-2024 at 19:00 hrs

Sl. No.	Region	Total Generation	Total Load (Gen. - Exp.)	Total Load (Feeder Summation)	Total Export/Import	Auxiliary Consumption & Transformation Losses
1	Western Grid	1,671.13	702.62	697.71	937.35	4.91
2	Eastern Grid	798.96	187.54	184.75	642.58	2.79
	Total	2,470.09	890.16	882.46	1,579.93	7.70

Note: Generation-Load Summary (MW) for 08-Oct-2023, at 19:00 hrs

Sl. No.	Region	Total Generation	Total Load (Gen. - Exp.)	Total Load (Feeder Summation)	Total Export/Import	Auxiliary Consumption & Transformation Losses
1	Western Grid	1,648.46	675.4	665.26	972.57	10.14
2	Eastern Grid	588.21	194.53	191.97	394.17	2.56
	Total	2,236.67	869.93	857.23	1,366.74	12.70

Note: Daily Energy (MUs) and Power(MW) Statistics for 08-Oct-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	38.43	0.00	20.22	60.91	1,849.53	2.33

- 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.