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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 04-Sep-2024(-ve:import, +ve:export)

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	03-Sep-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	186.14	400kV THP - Siliguri Line - I	0.00	400kV THP-Siliguri Line -I under breakdown. Unit VI tripped @08:15:31hrs
		Unit- II	185.43	400kV THP - Siliguri Line - II	250.64	
		Unit- III	185.51	400kV THP - Siliguri Line- IV	236.53	
		Unit- IV	183.86	400kV THP - Malbase Line - III	442.69	
		Unit- V	185.36	400kV Malbase - Siliguri Line	187.24	
		Unit- VI	0.00	-	-	
		Total	926.30	Auxiliary Consumption & Transformation Losses at Generator end	-0.38%	
2	4 x 180MW MHP	Unit-I	197.86	400kV MHP - Jigmeling Line - I	285.15	400kV MHP-JLG Line III on Standby. 132kV MHP_Yurmoo Line- I not in Service. 400kV JLG_ALI Direct Line I & 400kV JLG_ALI Interim Line I on Standby.
		Unit-II	197.71	400kV MHP - Jigmeling Line - II	284.69	
		Unit-III	193.29	400kV MHP - Jigmeling Line - III	0.00	
		Unit-IV	197.71	400kV MHP - Jigmeling Line - IV	278.19	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	60.98	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	139.27	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	280.73	
		-	-	400kV Jigmeling - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II	421.09	
		-	-	80MVA, 220/132kV ICT - I (HV)	36.95	
		-	-	80MVA, 220/132kV ICT - II (HV)	36.64	
		-	-	220kV Tsirang - Jigmeling Line	-8.16	
		-	-	132kV Gelephu - Salakati Line	31.03	
Total	786.57	Auxiliary Consumption & Transformation Losses at Generator end	0.60%			
3	4 x 84MW CHP	Unit- I	91.33	220kV CHP - Birpara Line - I	34.44	
		Unit- II	91.41	220kV CHP - Birpara Line - II	33.97	
		Unit- III	91.03	220kV CHP - Gedu	107.15	
		Unit- IV	91.43	220kV CHP - Jamjee (old) - I	60.43	
		-	-	220kV CHP - Jamjee - II (new)	61.28	
		-	-	220kV CHP - Jamjee - III (new)	59.08	
		-	-	220kV Malbase - Birpara Line	16.34	
		-	-	66kV CHP - Gedu Line	9.18	
-	-	3x3MVA, 66/11kV TFR	0.74			
Total	365.20	Auxiliary Consumption & Transformation Losses at Generator end	-0.29%			
4	2 x 12MW BHP (U/S)	Unit- I	10.60	220kV BHP - Semtokha Line	124.00	
		Unit- II	11.00	66kV BHP - Lobeyasa Line	26.28	
		Total	21.60	220kV BHP - Tsirang Line	-89.46	
5	2 x 20MW BHP (L/S)	Unit- I	19.90	5MVA, 66/11kV TFR	0.40	
		Unit- II	20.10	30MVA ICT, 220/66kV (HV)	5.52	
		Total	40.00	Auxiliary Consumption & Transformation Losses at Generator end	0.62%	
6	2 x 63MW DHP	Unit-I	41.83	220kV DHP - Tsirang Line	81.39	220kV DHP_Dagapela Line on Standby.
		Unit-II	40.02	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	54.02	
		-	-	5MVA, 220/33kV TFR	0.20	
Total	81.85	Auxiliary Consumption & Transformation Losses at Generator end	0.32%			
7	4 x 15MW KHP	Unit- I	16.57	132kV KHP - Nangkor Line	42.67	
		Unit-II	16.54	132kV KHP - Kilikhar Line	22.48	
		Unit- III	16.60	5MVA, 132/11kV TFR	0.32	
		Unit- IV	16.63	132kV Motanga - Rangia Line	50.74	
		Total	66.34	Auxiliary Consumption & Transformation Losses at Generator end	1.31%	
8	2 x 59MW NHP	Unit-I	64.03	132kV NHP-MHP-I	63.56	
		Unit-II	64.00	132kV NHP-MHP-II	63.60	
		Total	128.03	Auxiliary Consumption & Transformation Losses at Generator end	0.68%	

Note: Generation-Load Summary (MW) for 03-Sep-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	1,434.95	683.95	687.94	759.16	-3.99
2	Eastern Grid	980.94	189.19	182.73	783.59	6.46
	Total	2,415.89	873.14	870.67	1,542.75	2.47

Note: Generation-Load Summary for 03-Sep-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	1,666.90	587.80	586.15	1,049.34	1.65
2	Eastern Grid	657.40	177.77	175.23	509.39	2.54
	Total	2,324.30	765.57	761.38	1,558.73	4.19

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 04-Sep-2024(-ve:import, +ve:export)

Report Details	Date	Time	National Coincidental Peak Load (MW)		Date	Time	Load
	3-Sep-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	186.76	400kV THP - Siliguri Line - I	0.00	400kV THP-SIL line I under Breakdown.	
		Unit-II	185.76	400kV THP - Siliguri Line - II	299.27		
		Unit-III	185.33	400kV THP - Siliguri Line- IV	283.43		
		Unit-IV	186.13	400kV THP - Malbase Line - III	534.24		
		Unit-V	186.13	400kV Malbase - Siliguri Line	226.00		
		Unit-VI	186.14	-	-		
		Total	1,116.25	Auxiliary Consumption & Transformation Losses at Generator end	-0.06%		
2	4 x 180MW MHP	Unit-I	187.62	400kV MHP - Jigmeling Line - I	289.32	400kV MHP-JLG Line III on Standby. 132kV MHP_Yurmo Line-I not in Service. 400kV JLG_ALI Interim Line I & 400kV JLG_ALI Direct line I on Standby. 132kV MHP_Yurmo Line under Emergency Shutdown.	
		Unit-II	187.78	400kV MHP - Jigmeling Line - II	288.86		
		Unit-III	187.32	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	187.32	400kV MHP - Jigmeling Line - IV	282.23		
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	0.00		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	189.09		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	271.27		
		-	-	400kV Jigmeling - Alipurduar Line - I	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - II	405.09		
		-	-	80MVA, 220/132kV ICT - I (HV)	62.21		
		-	-	80MVA, 220/132kV ICT - II (HV)	61.75		
		-	-	220kV Tsirang - Jigmeling Line	8.16		
		-	-	132kV Gelephu - Salakati Line	17.85		
Total	750.04	Auxiliary Consumption & Transformation Losses at Generator end	0.52%				
3	4 x 84MW CHP	Unit-I	91.28	220kV CHP - Birpara Line - I	35.02		
		Unit-II	91.06	220kV CHP - Birpara Line - II	34.58		
		Unit-III	91.95	220kV CHP - Gedu	80.05		
		Unit-IV	92.27	220kV CHP - Jamjee (old) - I	69.60		
		-	-	220kV CHP - Jamjee - II (new)	70.23		
		-	-	220kV CHP - Jamjee - III (new)	67.73		
		-	-	220kV Malbase - Birpara Line	37.53		
		-	-	66kV CHP - Gedu Line	9.09		
		-	-	3x3MVA, 66/11kV TFR	1.01		
		Total	366.56	Auxiliary Consumption & Transformation Losses at Generator end	-0.20%		
4	2 x 12MW BHP (U/S)	Unit-I	9.00	220kV BHP - Sento Kha Line	113.19		
		Unit-II	11.50	66kV BHP - Lobeyssa Line	28.09		
		Total	20.50	220kV BHP - Tsirang Line	-84.54		
5	2 x 20MW BHP (L/S)	Unit-I	17.24	5MVA, 66/11kV TFR	0.70		
		Unit-II	19.32	30MVA ICT, 220/66kV (HV)	8.76		
		Total	36.56	Auxiliary Consumption & Transformation Losses at Generator end	-0.67%		
6	2 x 63MW DHP	Unit-I	37.28	220kV DHP - Tsirang Line	76.80	220kV DHP_Dagapela Line on Standby.	
		Unit-II	39.98	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	54.69		
		-	-	5MVA, 220/33kV TFR	0.20		
Total	77.26	Auxiliary Consumption & Transformation Losses at Generator end	0.34%				
7	4 x 15MW KHP	Unit-I	16.50	132kV KHP - Nangkor Line	40.33		
		Unit-II	16.50	132kV KHP - Kilikhar Line	24.70		
		Unit-III	16.50	5MVA, 132/11kV TFR	0.36		
		Unit-IV	16.50	132kV Motanga - Rangia Line	37.50		
		Total	66.00	Auxiliary Consumption & Transformation Losses at Generator end	0.92%		
8	2 x 59MW NHP	Unit-I	55.90	132kV NHP-MHP-I	55.63		
		Unit-II	59.04	132kV NHP-MHP-II	58.64		
		Total	114.94	Auxiliary Consumption & Transformation Losses at Generator end	0.58%		

Note: Generation-Load Summary (MW) for 03-Sep-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	1,617.13	693.14	694.70	915.83	-1.56
2	Eastern Grid	930.98	207.43	202.25	731.71	5.18
	Total	2,548.11	900.57	896.95	1,647.54	3.62

Note: Generation-Load Summary (MW) for 03-Sep-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	1,483.84	614.59	601.16	887.03	13.43
2	Eastern Grid	843.37	193.2	189.02	632.39	4.18
	Total	2,327.21	807.79	790.18	1,519.42	17.61

Note: Daily Energy (MUs) and Power(MW) Statistics for 03-Sep-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	38.82	0.00	20.78	61.06	1,837.00	1.56

- 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.