ནུས་ཤུགས་དང་རང་བཞིན་ཐོན་སྐྱེད་ལྷན་ཁག། དཔལ་ལྡན་འབྲུག་གཞུང་།

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

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	20-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	77.00	400kV THP - Siliguri Line - I	161.97	
		Unit- II	187.10	400kV THP - Siliguri Line - II	160.07	
		Unit- III	20.17	400kV THP - Siliguri Line- IV	154.16	
		Unit- IV	182.27	400kV THP - Malbase Line - III	369.39	
		Unit- V	186.41	400kV Malbase - Siliguri Line	104.39	
		Unit- VI	185.12	-	-	
		Total	**838.07**	**Auxiliary Consumption & Transformation Losses at Generator end**	**-0.90%**	
2	4 x 180MW MHP	Unit-I	197.73	400kV MHP - Jigmeling Line - I	285.04	400kV MHP-JLG Line IV on Standby. 132kV MHP_Yurmoo Line- I not in Service. 400kV JLG_ALI Interim Line I on Standby.
		Unit-II	197.74	400kV MHP - Jigmeling Line - II	286.07	
		Unit-III	194.41	400kV MHP - Jigmeling Line - III	279.40	
		Unit-IV	198.37	400kV MHP - Jigmeling Line - IV	0.00	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	34.39	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	139.60	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	174.11	
		-	-	400kV Jigmeling - Alipurduar Line - I	261.58	
		-	-	400kV Jigmeling - Alipurduar Line - II	260.48	
		-	-	80MVA, 220/132kV ICT - I (HV)	38.57	
		-	-	80MVA, 220/132kV ICT - II (HV)	38.58	
		-	-	220kV Tsirang - Jigmeling Line	8.67	
		-	-	132kV Gelephu - Salakati Line	33.40	
		Total	**788.25**	**Auxiliary Consumption & Transformation Losses at Generator end**	**0.32%**	
3	4 x 84MW CHP	Unit- I	91.38	220kV CHP - Birpara Line - I	27.08	
		Unit- II	91.33	220kV CHP - Birpara Line - II	26.75	
		Unit- III	91.34	220kV CHP - Gedu	92.91	
		Unit- IV	91.50	220kV CHP - Jamjee **(old)** - I	70.00	
				220kV CHP - Jamjee - II **(new)**	70.55	
				220kV CHP - Jamjee - III **(new)**	68.32	
		-	-	220kV Malbase - Birpara Line	12.84	
		-	-	66kV CHP - Gedu Line	9.28	
		-	-	3x3MVA, 66/11kV TFR	0.77	
		Total	**365.55**	**Auxiliary Consumption & Transformation Losses at Generator end**	**-0.03%**	
4	2 x 12MW BHP (U/S)	Unit- I	8.98	220kV BHP - Semtokha Line	96.50	
		Unit- II	8.86	66kV BHP - Lobeysa Line	26.37	
		Total	**17.84**	220kV BHP - Tsirang Line	-75.15	
5	2 x 20MW BHP (L/S)	Unit- I	15.47	5MVA, 66/11kV TFR	0.45	
		Unit- II	14.90	30MVA ICT, 220/66kV (HV)	9.37	
		Total	**30.37**	**Auxiliary Consumption & Transformation Losses at Generator end**	**0.08%**	
6	2 x 63MW DHP	Unit-I	34.34	220kV DHP - Tsirang Line	68.86	220kV DHP_Dagapela Line on Standby.
		Unit-II	35.00	220kV DHP - Dagapela Line	0.00	
		-		220kV Jigmeling - Dagapela Line	53.59	
		-	-	5MVA, 220/33kV TFR	0.30	
		Total	**69.34**	**Auxiliary Consumption & Transformation Losses at Generator end**	**0.26%**	
7	4 x 15MW KHP	Unit- I	16.55	132kV KHP - Nangkhor Line	43.28	
		Unit-II	16.50	132kV KHP - Kilikhar Line	22.03	
		Unit- III	16.39	5MVA, 132/11kV TFR	0.26	
		Unit- IV	16.82	132kV Motanga - Rangia Line	52.59	
		Total	**66.26**	**Auxiliary Consumption & Transformation Losses at Generator end**	**1.04%**	
8	2 x 59MW NHP	Unit-I	49.79	132kV NHP-MHP-I	49.52	
		Unit-II	50.09	132kV NHP-MHP-II	49.68	
		Total	**99.88**	**Auxiliary Consumption & Transformation Losses at Generator end**	**0.68%**	

Note: Generation-Load Summary (MW) for 20-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	1,321.17	665.24	672.65	647.26	-7.41
2	Eastern Grid	954.39	180.90	176.98	782.16	3.92
Total		**2,275.56**	**846.14**	**849.63**	**1,429.42**	**-3.49**

Note: Generation-Load Summary for 20-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	1,017.69	589.15	576.98	422.51	12.17
2	Eastern Grid	536.61	203.36	199.88	338.98	3.48
Total		**1,554.30**	**792.51**	**776.86**	**761.49**	**15.65**

THE DAILY BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT & ENERGY FIGURES ISSUED ON 21-Sep-2024(-ve:import, +ve:export)

Report Details	Date	Time	National Coincidental Peak Load (MW)	Date	Time	Load
	20-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	184.67	400kV THP - Siliguri Line - I	219.53	
		Unit- II	185.29	400kV THP - Siliguri Line - II	218.68	
		Unit- III	185.35	400kV THP - Siliguri Line- IV	210.09	
		Unit- IV	185.82	400kV THP - Malbase Line - III	467.40	
		Unit- V	185.64	400kV Malbase - Siliguri Line	154.00	
		Unit- VI	185.43	-	-	
		Total	**1,112.20**	**Auxiliary Consumption & Transformation Losses at Generator end**	**-0.31%**	
2	4 x 180MW MHP	Unit-I	197.65	400kV MHP - Jigmeling Line - I	275.63	400kV MHP-JLG Line IV on Standby. 132kV MHP_Yurmoo Line- I not in Service. 400kV JLG_ALI Interim Line I on Standby.
		Unit-II	197.84	400kV MHP - Jigmeling Line - II	276.64	
		Unit-III	191.77	400kV MHP - Jigmeling Line - III	269.98	
		Unit-IV	195.72	400kV MHP - Jigmeling Line - IV	0.00	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	40.36	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	161.80	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - I	0.00	
		-	-	400kV Jigmeling - Puna - Alipurduar Line - II	166.38	
		-	-	400kV Jigmeling - Alipurduar Line - I	248.24	
		-	-	400kV Jigmeling - Alipurduar Line - II	247.77	
		-	-	80MVA, 220/132kV ICT - I (HV)	-46.89	
		-	-	80MVA, 220/132kV ICT - II (HV)	-46.47	
		-	-	220kV Tsirang - Jigmeling Line	-13.49	
		-	-	132kV Gelephu - Salakati Line	27.90	
		Total	**782.98**	**Auxiliary Consumption & Transformation Losses at Generator end**	**-0.19%**	
3	4 x 84MW CHP	Unit- I	91.74	220kV CHP - Birpara Line - I	30.79	
		Unit- II	91.41	220kV CHP - Birpara Line - II	30.52	
		Unit- III	91.07	220kV CHP - Gedu	69.99	
		Unit- IV	91.31	220kV CHP - Jamjee (old) - I	75.49	
				220kV CHP - Jamjee - II (new)	76.20	
				220kV CHP - Jamjee - III (new)	73.38	
		-	-	220kV Malbase - Birpara Line	42.88	
		-	-	66kV CHP - Gedu Line	8.64	
		-	-	3x3MVA, 66/11kV TFR	0.97	
		Total	**365.53**	**Auxiliary Consumption & Transformation Losses at Generator end**	**-0.12%**	
4	2 x 12MW BHP (U/S)	Unit- I	9.30	220kV BHP - Semtokha Line	95.20	
		Unit- II	8.20	66kV BHP - Lobeysa Line	28.30	
		Total	**17.50**	220kV BHP - Tsirang Line	-76.21	
5	2 x 20MW BHP (L/S)	Unit- I	15.40	5MVA, 66/11kV TFR	0.68	
		Unit- II	15.20	30MVA ICT, 220/66kV (HV)	12.03	
		Total	**30.60**	**Auxiliary Consumption & Transformation Losses at Generator end**	**0.27%**	
6	2 x 63MW DHP	Unit-I	34.34	220kV DHP - Tsirang Line	67.08	220kV DHP_Dagapela Line on Standby.
		Unit-II	33.21	220kV DHP - Dagapela Line	0.00	
		-		220kV Jigmeling - Dagapela Line	53.13	
		-	-	5MVA, 220/33kV TFR	0.20	
		Total	**67.55**	**Auxiliary Consumption & Transformation Losses at Generator end**	**0.40%**	
7	4 x 15MW KHP	Unit- I	16.50	132kV KHP - Nangkhor Line	39.45	
		Unit-II	16.54	132kV KHP - Kilikhar Line	25.53	
		Unit- III	16.63	5MVA, 132/11kV TFR	0.40	
		Unit- IV	16.49	132kV Motanga - Rangia Line	59.16	
		Total	**66.16**	**Auxiliary Consumption & Transformation Losses at Generator end**	**1.18%**	
8	2 x 59MW NHP	Unit-I	63.85	132kV NHP-MHP-I	63.37	
		Unit-II	14.95	132kV NHP-MHP-II	14.79	
		Total	**78.80**	**Auxiliary Consumption & Transformation Losses at Generator end**	**0.81%**	

Note: Generation-Load Summary (MW) for 20-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	1,593.38	700.38	703.93	906.49	-3.55
2	Eastern Grid	927.94	165.00	165.05	749.45	-0.05
Total		**2,521.32**	**865.38**	**868.98**	**1,655.94**	**-3.60**

Note: Generation-Load Summary (MW) for 20-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	1,170.34	618.95	611.62	574.56	7.33
2	Eastern Grid	605.17	238.94	231.86	343.06	7.08
Total		**1,775.51**	**857.89**	**843.48**	**917.62**	**14.41**

Note: Daily Energy (MUs) and Power(MW) Statistics for 20-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	**35.56**	**0.00**	**19.89**	**55.28**	**1,849.61**	**1.65**

1. 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:

i) 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.

2. 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.

3. When SCADA data are unavailable for certain stations due to technical issues, required data are collected from the site.