

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Coincidental Maximum Load

Date: December 14, 2022
Hours: 18:00 Hours

Date: 17-Nov-22 **Time:** 18:39:09hrs **Load(MW):** 616.55

Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Remarks
1	1020MW THP	Unit- I	0.00	400kV THP - Siliguri Line - I	81.62	Unit-I, II & III under Shutdown. 400kV THP- Siliguri Line II & 400kV Tala-Siliguri line IV on Standby
		Unit- II	0.00	400kV THP - Siliguri Line - II	0.00	
		Unit- III	0.00	400kV THP - Siliguri Line- IV	0.00	
		Unit- IV	108.46	400kV THP - Malbase Line - III	182.33	
		Unit- V	88.22	400kV Malbase - Siliguri Line	53.69	
		Unit- VI	69.71	-	-	
		Total	266.39	Auxiliary Consumption & Transformation Losses at Generator end	0.92%	
2	720MW MHP	Unit-I	61.16	400kV MHP - Jigmeling Line - I	0.00	Unit-III & IV under shutdown. 400kV MHP-JLG Line I & II under Shutdown. 400kV MHP-JLG Line III on Standby. 132kV MHP_Yurmo Line-I not in service. 400kV JLG_ALI line- I (Direct) on Standby. 400kV JLG_ALI Line- I (Interim) on Standby.
		Unit-II	70.15	400kV MHP - Jigmeling Line - II	0.00	
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	0.00	
		Unit-IV	0.00	400kV MHP - Jigmeling Line - IV	46.87	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	83.37	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	116.58	
		-	-	400kV Jigmeling - Alipurduar Line - I (Interim)	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II (Interim)	-27.63	
		-	-	400kV Jigmeling - Alipurduar Line - I (Direct)	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II (Direct)	-42.54	
		-	-	80MVA, 220/132kV ICT - I (HV)	12.77	
		-	-	80MVA, 220/132kV ICT - II (HV)	13.05	
		-	-	220kV Tsirang - Jigmeling Line	-22.43	
-	-	132kV Gelephu - Salakati Line	1.93			
Total	131.31	Auxiliary Consumption & Transformation Losses at Generator end	0.81%			
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Line- I	0.00	Unit-I under Shutdown. Unit-II on Standby. 220kV CHP_Birpara Line I & 66kV CHP_GED Line on Standby.
		Unit- II	0.00	220kV CHP - Birpara Line- II	-6.32	
		Unit- III	76.61	220kV CHP - Malbase Line- III	17.72	
		Unit- IV	65.02	220kV CHP - Semtokha Line- IV	100.26	
		-	-	220kV Malbase - Birpara Line	-24.02	
		-	-	66kV CHP - Chumdo Line	27.80	
		-	-	66kV CHP - Gedu Line	0.00	
		-	-	3x3MVA, 66/11kV TFR	1.93	
Total	141.63	Auxiliary Consumption & Transformation Losses at Generator end	0.17%			
4	24MW BHP (U/S)	Unit- I	4.27	220kV BHP - Semtokha Line	50.36	
		Unit- II	4.27	66kV BHP - Lobeyasa Line	28.47	
		Total	8.54	220kV BHP - Tsirang Line	-53.13	
5	40MW BHP (L/S)	Unit- I	9.00	5MVA, 66/11kV TFR	0.77	
		Unit- II	8.50	30MVA ICT, 220/66kV (HV)	20.60	
		Total	17.50	Auxiliary Consumption & Transformation Losses at Generator end	-1.65%	
6	126MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	29.65	Unit-I under Shutdown. 220kV DHP_Dagapela Line on Standby.
		Unit-II	29.92	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	63.06	
		-	-	5MVA, 220/33kV TFR	0.26	
Total	29.92	Auxiliary Consumption & Transformation Losses at Gen. end	0.03%			
7	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhoh Line	9.31	Unit- I under Shutdown. Unit- IV on Standby.
		Unit-II	14.02	132kV KHP - Kilikhar Line	17.59	
		Unit- III	14.03	5MVA, 132/11kV TFR	0.84	
		Unit- IV	0.00	132kV Motanga - Rangia Line	7.92	
		Total	28.05	Auxiliary Consumption & Transformation Losses at Generator end	1.11%	

Note: Generation-Load Summary (MW) for December 14, 2022 at 18:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Auxiliary Consumption & Transformation Losses (MW)
1	Western Grid	463.98	381.44	379.18	104.97	2.26
2	Eastern Grid	159.36	197.25	195.87	-60.32	1.38
Total		623.34	578.69	575.05	44.65	3.64

Note: Generation-Load Summary for December 14, 2021 at 18:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Auxiliary Consumption & Transformation Losses (MW)
1	Western Grid	492.77	369.12	364.01	151.89	5.11
2	Eastern Grid	182.06	92.76	90.86	61.06	1.90
Total		674.83	461.88	454.87	212.95	7.01

Note:-

- 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.
 - The clocks of all the locations are not synchronized.
- This report is generated to give an idea of the generation & load flow for the system at a particular instant.

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Coincidental Maximum Load

Date: December 15, 2022
Hours: 09:00 Hours

Date: 17-Nov-22 **Time:** 18:39:09hrs **Load(MW):** 616.55

Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Remarks
1	1020MW THP	Unit- I	0.00	400kV THP - Siliguri Line - I	82.54	Unit-I, II & III under Shutdown. 400kV THP- Siliguri Line II & 400kV Tala-Siliguri line IV on Standby.
		Unit- II	0.00	400kV THP - Siliguri Line - II	0.00	
		Unit- III	0.00	400kV THP - Siliguri Line- IV	0.00	
		Unit- IV	79.69	400kV THP - Malbase Line - III	172.03	
		Unit- V	107.56	400kV Malbase - Siliguri Line	56.45	
		Unit- VI	70.71	-	-	
		Total	257.96	Auxiliary Consumption & Transformation Losses at Generator end	1.31%	
2	720MW MHP	Unit-I	79.84	400kV MHP - Jigmeling Line - I	0.00	Unit-III & IV under shutdown. 400kV MHP-JLG Line I & II under Shutdown. 400kV MHP-JLG Line III on Standby. 132kV MHP_Yurmo Line-I not in service. 400kV JLG_ALI line- I (Direct) on Standby. 400kV JLG_ALI Line- I (Interim) on Standby.
		Unit-II	74.83	400kV MHP - Jigmeling Line - II	0.00	
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	0.00	
		Unit-IV	0.00	400kV MHP - Jigmeling Line - IV	75.30	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	78.02	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	104.81	
		-	-	400kV Jigmeling - Alipurduar Line - I (Interim)	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II (Interim)	-11.64	
		-	-	400kV Jigmeling - Alipurduar Line - I (Direct)	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II (Direct)	-17.87	
		-	-	80MVA, 220/132kV ICT - I (HV)	9.61	
		-	-	80MVA, 220/132kV ICT - II (HV)	9.83	
		-	-	220kV Tsirang - Jigmeling Line	-22.43	
-	-	132kV Gelephu - Salakati Line	1.45			
Total	154.67	Auxiliary Consumption & Transformation Losses at Generator end	0.87%			
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Line- I	0.00	Unit-I under Shutdown. Unit-II on Standby. 220kV CHP_Birpara Line I & 66kV CHP_GED Line on Standby.
		Unit- II	0.00	220kV CHP - Birpara Line- II	-5.55	
		Unit- III	75.74	220kV CHP - Malbase Line- III	31.54	
		Unit- IV	58.57	220kV CHP - Semtokha Line- IV	83.55	
		-	-	220kV Malbase - Birpara Line	-33.23	
		-	-	66kV CHP - Chumdo Line	23.37	
		-	-	66kV CHP - Gedu Line	0.00	
		-	-	3x3MVA, 66/11kV TFR	1.38	
Total	134.31	Auxiliary Consumption & Transformation Losses at Generator end	0.01%			
4	24MW BHP (U/S)	Unit- I	4.24	220kV BHP - Semtokha Line	50.32	
		Unit- II	4.24	66kV BHP - Lobeyasa Line	25.74	
		Total	8.48	220kV BHP - Tsirang Line	-49.59	
5	40MW BHP (L/S)	Unit- I	9.02	5MVA, 66/11kV TFR	0.52	
		Unit- II	9.19	30MVA ICT, 220/66kV (HV)	17.80	
		Total	18.21	Auxiliary Consumption & Transformation Losses at Generator end	-1.12%	
6	126MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	29.57	Unit-I under shutdown. 220kV DHP_Dagapela Line on Standby.
		Unit-II	29.83	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	61.73	
		-	-	5MVA, 220/33kV TFR	0.20	
Total	29.83	Auxiliary Consumption & Transformation Losses at Generator end	0.20%			
7	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhor Line	7.25	Unit-I under Shutdown. Unit-IV on Standby.
		Unit-II	10.19	132kV KHP - Kilikhar Line	12.17	
		Unit- III	10.18	5MVA, 132/11kV TFR	0.71	
		Unit- IV	0.00	132kV Motanga - Rangia Line	3.36	
		Total	20.37	Auxiliary Consumption & Transformation Losses at Generator end	1.18%	

Note: Generation-Load Summary (MW) for December 15, 2022 at 09:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Auxiliary Consumption & Transformation Losses (MW)
1	Western Grid	448.79	371.01	367.84	100.21	3.17
2	Eastern Grid	175.04	177.31	175.72	-24.70	1.59
Total		623.83	548.32	543.56	75.51	4.76

Note: Generation-Load Summary for December 15, 2021 at 09:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Auxiliary Consumption & Transformation Losses (MW)
1	Western Grid	469.75	351.36	348.70	144.35	2.66
2	Eastern Grid	175.55	74.89	72.87	74.70	2.02
Total		645.30	426.25	421.57	219.05	4.68

Note:-

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