

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Coincidental Maximum Load

Date: August 14, 2022
Hours: 19:00 Hours

Date: 8-Aug-22 **Time:** 19:33 hrs **Load(MW):** 513.31

Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Remarks
1	1020MW THP	Unit- I	186.04	400kV THP - Siliguri Line - I	260.63	
		Unit- II	184.30	400kV THP - Siliguri Line - II	257.28	
		Unit- III	185.27	400kV THP - Siliguri Line- IV	251.15	
		Unit- IV	184.91	400kV THP - Malbase Line - III	332.21	
		Unit- V	185.66	400kV Malbase - Siliguri Line	233.31	
		Unit- VI	185.17	-	-	
		Total	1,111.35	Auxiliary Consumption & Transformation Losses at Generator end	0.91%	
2	720MW MHP	Unit-I	197.92	400kV MHP - Jigmeling Line - I	242.90	400kV MHP-JLG Line IV under breakdown. 132kV MHP_Yurmoo line I & II not in service. 400kV JLG_ALI Line II (Interim) on Standby. 400kV JLG_ALI Line II (Direct) on Standby.
		Unit-II	197.89	400kV MHP - Jigmeling Line - II	243.65	
		Unit-III	135.44	400kV MHP - Jigmeling Line - III	237.28	
		Unit-IV	197.26	400kV MHP - Jigmeling Line - IV	0.00	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	0.00	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	77.75	
		-	-	400kV Jigmeling - Alipurduar Line - I (Interim)	255.32	
		-	-	400kV Jigmeling - Alipurduar Line - II (Interim)	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I (Direct)	383.59	
		-	-	400kV Jigmeling - Alipurduar Line - II (Direct)	0.00	
		-	-	80MVA, 220/132kV ICT - I (HV)	43.40	
		-	-	80MVA, 220/132kV ICT - II (HV)	44.26	
		-	-	220kV Tsirang - Jigmeling Line	-37.73	
-	-	132kV Gelephu - Salakati Line	20.33			
Total	728.51	Auxiliary Consumption & Transformation Losses at Generator end	0.64%			
3	336MW CHP	Unit- I	91.74	220kV CHP - Birpara Line- I	67.55	Unit IV under Shutdown.
		Unit- II	91.22	220kV CHP - Birpara Line- II	67.65	
		Unit- III	91.45	220kV CHP - Malbase Line- III	91.95	
		Unit- IV	0.00	220kV CHP - Semtokha Line- IV	26.86	
		-	-	220kV Malbase - Birpara Line	40.48	
		-	-	66kV CHP - Chumdo Line	13.14	
		-	-	66kV CHP - Gedu Line	5.57	
		-	-	3x3MVA, 66/11kV TFR	1.55	
Total	274.41	Auxiliary Consumption & Transformation Losses at Generator end	0.05%			
4	24MW BHP (U/S)	Unit- I	12.30	220kV BHP - Semtokha Line	74.70	
		Unit- II	12.10	66kV BHP - Lobeyasa Line	26.04	
		Total	24.40	220kV BHP - Tsirang Line	-35.86	
5	40MW BHP (L/S)	Unit- I	21.20	5MVA, 66/11kV TFR	0.56	
		Unit- II	20.50	30MVA ICT, 220/66kV (HV)	3.16	
		Total	41.70	Auxiliary Consumption & Transformation Losses at Generator end	1.00%	
6	126MW DHP	Unit-I	53.46	220kV DHP - Tsirang Line	0.00	220kV DHP_Tsirang Line on Standby.
		Unit-II	52.01	220kV DHP - Dagapela Line	104.90	
		-	-	220kV Jigmeling - Dagapela Line	-49.57	
		-	-	5MVA, 220/33kV TFR	0.56	
Total	105.47	Auxiliary Consumption & Transformation Losses at Gen. end	0.01%			
7	60MW KHP	Unit- I	16.52	132kV KHP - Nangkhoh Line	38.56	
		Unit-II	16.50	132kV KHP - Kilikhar Line	26.40	
		Unit- III	16.57	5MVA, 132/11kV TFR	0.40	
		Unit- IV	16.55	132kV Motanga - Rangia Line	30.12	
		Total	66.14	Auxiliary Consumption & Transformation Losses at Generator end	1.18%	

Note: Generation-Load Summary (MW) for August 14, 2022 at 19:00hrs.

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	1,557.33	367.44	356.55	1,178.05	10.89
2	Eastern Grid	794.65	117.13	111.67	689.36	5.46
Total		2,351.98	484.57	468.22	1,867.41	16.35

Note: Generation-Load Summary for August 14, 2021 at 19:00hrs.

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	1,639.02	287.52	275.93	1,257.41	11.59
2	Eastern Grid	659.41	81.27	77.48	672.23	3.79
Total		2,298.43	368.79	353.41	1,929.64	15.38

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: August 15, 2022
Hours: 09:00 Hours

Date **Time** **Load(MW)**
 8-Aug-22 19:33 hrs 513.31

Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Remarks
1	1020MW THP	Unit- I	185.28	400kV THP - Siliguri Line - I	267.08	
		Unit- II	185.62	400kV THP - Siliguri Line - II	263.67	
		Unit- III	185.72	400kV THP - Siliguri Line - IV	257.65	
		Unit- IV	186.00	400kV THP - Malbase Line - III	316.91	
		Unit- V	185.84	400kV Malbase - Siliguri Line	241.41	
		Unit- VI	186.03	-	-	
		Total	1,114.49	Auxiliary Consumption & Transformation Losses at Generator end	0.82%	
2	720MW MHP	Unit-I	197.78	400kV MHP - Jigmeling Line - I	243.10	400kV MHP-JLG Line IV under breakdown. 132kV MHP_Yurmoo line I & II not in service. 400kV JLG_ALI Line II(Interim) on Standby. 400kV JLG_ALI Line II(Direct) on Standby
		Unit-II	197.69	400kV MHP - Jigmeling Line - II	243.73	
		Unit-III	135.47	400kV MHP - Jigmeling Line - III	237.37	
		Unit-IV	197.36	400kV MHP - Jigmeling Line - IV	0.00	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	0.00	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	48.35	
		-	-	400kV Jigmeling - Alipurduar Line - I (Interim)	267.52	
		-	-	400kV Jigmeling - Alipurduar Line - II (Interim)	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I (Direct)	401.32	
		-	-	400kV Jigmeling - Alipurduar Line - II (Direct)	0.00	
		-	-	80MVA, 220/132kV ICT - I (HV)	33.90	
		-	-	80MVA, 220/132kV ICT - II (HV)	34.39	
		-	-	220kV Tsirang - Jigmeling Line	-38.07	
-	-	132kV Gelephu - Salakati Line	15.91			
Total	728.30	Auxiliary Consumption & Transformation Losses at Generator end	0.56%			
3	336MW CHP	Unit- I	91.74	220kV CHP - Birpara Line- I	64.41	Unit IV under Shutdown.
		Unit- II	91.22	220kV CHP - Birpara Line- II	64.39	
		Unit- III	91.45	220kV CHP - Malbase Line- III	109.02	
		Unit- IV	0.00	220kV CHP - Semtokha Line- IV	17.45	
		-	-	220kV Malbase - Birpara Line	22.08	
		-	-	66kV CHP - Chumdo Line	10.17	
		-	-	66kV CHP - Gedu Line	7.07	
		-	-	3x3MVA, 66/11kV TFR	0.99	
Total	274.41	Auxiliary Consumption & Transformation Losses at Generator end	0.33%			
4	24MW BHP (U/S)	Unit- I	12.30	220kV BHP - Semtokha Line	77.00	
		Unit- II	12.10	66kV BHP - Lobeysa Line	24.91	
		Total	24.40	220kV BHP - Tsirang Line	-36.52	
5	40MW BHP (L/S)	Unit- I	21.20	5MVA, 66/11kV TFR	0.39	
		Unit- II	20.50	30MVA ICT, 220/66kV (HV)	1.48	
		Total	41.70	Auxiliary Consumption & Transformation Losses at Generator end	0.48%	
6	126MW DHP	Unit-I	57.41	220kV DHP - Tsirang Line	0.00	220kV DHP_TSI Line on Standby.
		Unit-II	57.04	220kV DHP - Dagapela Line	113.90	
		-	-	220kV Jigmeling - Dagapela Line	-58.82	
		-	-	5MVA, 220/33kV TFR	0.30	
Total	114.45	Auxiliary Consumption & Transformation Losses at Generator end	0.22%			
7	60MW KHP	Unit- I	16.52	132kV KHP - Nangkhoh Line	42.09	
		Unit-II	16.58	132kV KHP - Kilikhar Line	23.10	
		Unit- III	16.44	5MVA, 132/11kV TFR	0.32	
		Unit- IV	16.46	132kV Motanga - Rangia Line	25.37	
		Total	66.00	Auxiliary Consumption & Transformation Losses at Generator end	0.74%	

Note: Generation-Load Summary (MW) for August 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	1,569.45	368.01	357.35	1,180.69	10.66
2	Eastern Grid	794.30	104.93	100.34	710.12	4.59
Total		2,363.75	472.94	457.69	1,890.81	15.25

Note: Generation-Load Summary for August 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	1,683.46	288.18	269.46	1,283.77	18.72
2	Eastern Grid	659.51	66.90	63.45	704.12	3.45
Total		2,342.97	355.08	332.91	1,987.89	22.17

NOTE:

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