

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Coincidental Maximum Load

Date: December 10, 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	0.00	Unit-I, II & III under Shutdown. 400kV THP- Siliguri Line I & 400kV Tala-Siliguri line IV on Standby
		Unit- II	0.00	400kV THP - Siliguri Line - II	99.96	
		Unit- III	0.00	400kV THP - Siliguri Line- IV	0.00	
		Unit- IV	75.69	400kV THP - Malbase Line - III	190.84	
		Unit- V	146.40	400kV Malbase - Siliguri Line	73.05	
		Unit- VI	72.12	-	-	
		Total	294.21	Auxiliary Consumption & Transformation Losses at Generator end	1.16%	
2	720MW MHP	Unit-I	99.98	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- II (Direct) on Standby. 400kV JLG_ALI Line- I (Interim) on Standby.
		Unit-II	95.99	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	102.29	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	91.58	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	116.53	
		-	-	400kV Jigmeling - Alipurduar Line - I (Interim)	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II (Interim)	-5.82	
		-	-	400kV Jigmeling - Alipurduar Line - I (Direct)	-9.38	
		-	-	400kV Jigmeling - Alipurduar Line - II (Direct)	0.00	
		-	-	80MVA, 220/132kV ICT - I (HV)	14.67	
		-	-	80MVA, 220/132kV ICT - II (HV)	15.01	
		-	-	220kV Tsirang - Jigmeling Line	22.43	
-	-	132kV Gelephu - Salakati Line	4.20			
Total	195.97	Auxiliary Consumption & Transformation Losses at Generator end	1.07%			
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	0.42	
		Unit- III	78.00	220kV CHP - Malbase Line- III	21.54	
		Unit- IV	68.99	220kV CHP - Semtokha Line- IV	95.99	
		-	-	220kV Malbase - Birpara Line	-15.81	
		-	-	66kV CHP - Chumdo Line	26.90	
		-	-	66kV CHP - Gedu Line	0.00	
		-	-	3x3MVA, 66/11kV TFR	1.99	
Total	146.99	Auxiliary Consumption & Transformation Losses at Generator end	0.10%			
4	24MW BHP (U/S)	Unit- I	4.60	220kV BHP - Semtokha Line	50.76	
		Unit- II	4.40	66kV BHP - Lobeyasa Line	26.50	
		Total	9.00	220kV BHP - Tsirang Line	-50.18	
5	40MW BHP (L/S)	Unit- I	9.60	5MVA, 66/11kV TFR	0.76	
		Unit- II	9.20	30MVA ICT, 220/66kV (HV)	18.51	
		Total	18.80	Auxiliary Consumption & Transformation Losses at Generator end	-0.14%	
6	126MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	30.96	Unit-I under Shutdown. 220kV DHP_Dagapela Line on Standby.
		Unit-II	31.21	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	62.91	
		-	-	5MVA, 220/33kV TFR	0.24	
Total	31.21	Auxiliary Consumption & Transformation Losses at Gen. end	0.03%			
7	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhoh Line	8.07	Unit- I under Shutdown. Unit- II on Standby.
		Unit-II	0.00	132kV KHP - Kilikhar Line	19.97	
		Unit- III	14.46	5MVA, 132/11kV TFR	0.70	
		Unit- IV	14.57	132kV Motanga - Rangia Line	11.48	
		Total	29.03	Auxiliary Consumption & Transformation Losses at Generator end	1.00%	

Note: Generation-Load Summary (MW) for December 10, 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	500.21	320.16	316.63	157.62	3.53
2	Eastern Grid	225.00	246.95	244.56	0.48	2.39
Total		725.21	567.11	561.19	158.10	5.92

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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	513.70	357.31	352.00	177.13	5.31
2	Eastern Grid	188.93	100.30	98.33	67.89	1.97
Total		702.63	457.61	450.33	245.02	7.28

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 11, 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	0.00	Unit-I, II & III under Shutdown. 400kV THP- Siliguri Line I & 400kV Tala-Siliguri line IV on Standby
		Unit- II	0.00	400kV THP - Siliguri Line - II	93.50	
		Unit- III	0.00	400kV THP - Siliguri Line- IV	0.00	
		Unit- IV	65.63	400kV THP - Malbase Line - III	178.49	
		Unit- V	137.04	400kV Malbase - Siliguri Line	68.48	
		Unit- VI	72.09	-	-	
		Total	274.76	Auxiliary Consumption & Transformation Losses at Generator end	1.01%	
2	720MW MHP	Unit-I	87.80	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- II (Direct) on Standby. 400kV JLG_ALI Line- I (Interim) on Standby.
		Unit-II	86.82	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	99.83	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	73.44	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	97.15	
		-	-	400kV Jigmeling - Alipurduar Line - I (Interim)	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II (Interim)	-0.73	
		-	-	400kV Jigmeling - Alipurduar Line - I (Direct)	0.86	
		-	-	400kV Jigmeling - Alipurduar Line - II (Direct)	0.00	
		-	-	80MVA, 220/132kV ICT - I (HV)	7.28	
		-	-	80MVA, 220/132kV ICT - II (HV)	7.46	
		-	-	220kV Tsirang - Jigmeling Line	22.43	
-	-	132kV Gelephu - Salakati Line	1.91			
Total	174.62	Auxiliary Consumption & Transformation Losses at Generator end	0.77%			
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	-3.42	
		Unit- III	69.83	220kV CHP - Malbase Line- III	36.75	
		Unit- IV	64.09	220kV CHP - Semtokha Line- IV	76.05	
		-	-	220kV Malbase - Birpara Line	-33.66	
		-	-	66kV CHP - Chumdo Line	22.55	
		-	-	66kV CHP - Gedu Line	0.00	
		-	-	3x3MVA, 66/11kV TFR	1.49	
Total	133.92	Auxiliary Consumption & Transformation Losses at Generator end	0.37%			
4	24MW BHP (U/S)	Unit- I	4.38	220kV BHP - Semtokha Line	51.65	
		Unit- II	4.38	66kV BHP - Lobeyasa Line	24.55	
		Total	8.76	220kV BHP - Tsirang Line	-48.74	
5	40MW BHP (L/S)	Unit- I	9.70	5MVA, 66/11kV TFR	0.52	
		Unit- II	9.08	30MVA ICT, 220/66kV (HV)	16.30	
		Total	18.78	Auxiliary Consumption & Transformation Losses at Generator end	-1.60%	
6	126MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	30.52	Unit-I under shutdown. 220kV DHP_Dagapela Line on Standby.
		Unit-II	30.77	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	61.66	
		-	-	5MVA, 220/33kV TFR	0.20	
Total	30.77	Auxiliary Consumption & Transformation Losses at Generator end	0.16%			
7	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhor Line	10.53	Unit-I under Shutdown. Unit-II on Standby.
		Unit-II	0.00	132kV KHP - Kilikhar Line	13.70	
		Unit- III	12.47	5MVA, 132/11kV TFR	0.75	
		Unit- IV	12.54	132kV Motanga - Rangia Line	0.00	
		Total	25.01	Auxiliary Consumption & Transformation Losses at Generator end	0.12%	

Note: Generation-Load Summary (MW) for December 11, 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	466.99	319.66	316.78	124.90	2.88
2	Eastern Grid	199.63	220.02	218.64	2.04	1.38
Total		666.62	539.68	535.42	126.94	4.26

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1	Western Grid	530.93	352.82	350.00	184.40	2.82
2	Eastern Grid	189.83	83.33	81.97	100.21	1.36
Total		720.76	436.15	431.97	284.61	4.18

Note:-

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