

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Coincidental Maximum Load

Date: December 13, 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	87.79	
		Unit- III	0.00	400kV THP - Siliguri Line- IV	0.00	
		Unit- IV	89.50	400kV THP - Malbase Line - III	191.21	
		Unit- V	121.90	400kV Malbase - Siliguri Line	59.01	
		Unit- VI	70.70	-	-	
		Total	282.10	Auxiliary Consumption & Transformation Losses at Generator end	1.10%	
2	720MW MHP	Unit-I	84.81	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	99.77	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	91.89	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	91.06	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	119.96	
		-	-	400kV Jigmeling - Alipurduar Line - I (Interim)	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II (Interim)	-10.18	
		-	-	400kV Jigmeling - Alipurduar Line - I (Direct)	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II (Direct)	-16.68	
		-	-	80MVA, 220/132kV ICT - I (HV)	14.88	
		-	-	80MVA, 220/132kV ICT - II (HV)	15.21	
		-	-	220kV Tsirang - Jigmeling Line	-22.43	
-	-	132kV Gelephu - Salakati Line	7.39			
Total	184.58	Auxiliary Consumption & Transformation Losses at Generator end	0.88%			
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	-8.12	
		Unit- III	76.04	220kV CHP - Malbase Line- III	19.93	
		Unit- IV	65.03	220kV CHP - Semtokha Line- IV	99.85	
		-	-	220kV Malbase - Birpara Line	-28.32	
		-	-	66kV CHP - Chumdo Line	27.45	
		-	-	66kV CHP - Gedu Line	0.00	
		-	-	3x3MVA, 66/11kV TFR	2.19	
Total	141.07	Auxiliary Consumption & Transformation Losses at Generator end	-0.16%			
4	24MW BHP (U/S)	Unit- I	4.28	220kV BHP - Semtokha Line	50.99	
		Unit- II	4.28	66kV BHP - Lobeyasa Line	28.34	
		Total	8.56	220kV BHP - Tsirang Line	-53.57	
5	40MW BHP (L/S)	Unit- I	9.00	5MVA, 66/11kV TFR	0.78	
		Unit- II	8.45	30MVA ICT, 220/66kV (HV)	20.90	
		Total	17.45	Auxiliary Consumption & Transformation Losses at Generator end	-2.04%	
6	126MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	29.84	Unit-I under Shutdown. 220kV DHP_Dagapela Line on Standby.
		Unit-II	30.12	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	62.79	
		-	-	5MVA, 220/33kV TFR	0.20	
Total	30.12	Auxiliary Consumption & Transformation Losses at Gen. end	0.27%			
7	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhoh Line	9.41	Unit- I under Shutdown. Unit- II on Standby.
		Unit-II	0.00	132kV KHP - Kilikhar Line	17.74	
		Unit- III	13.99	5MVA, 132/11kV TFR	0.81	
		Unit- IV	14.03	132kV Motanga - Rangia Line	7.98	
		Total	28.02	Auxiliary Consumption & Transformation Losses at Generator end	0.21%	

Note: Generation-Load Summary (MW) for December 13, 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	479.30	391.37	388.95	110.36	2.42
2	Eastern Grid	212.60	201.66	199.97	-11.49	1.69
Total		691.90	593.03	588.92	98.87	4.11

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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	502.97	343.73	340.38	183.64	3.35
2	Eastern Grid	184.10	93.05	91.10	66.65	1.95
Total		687.07	436.78	431.48	250.29	5.30

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.

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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	59.22	
		Unit- III	0.00	400kV THP - Siliguri Line- IV	0.00	
		Unit- IV	59.28	400kV THP - Malbase Line - III	156.58	
		Unit- V	88.63	400kV Malbase - Siliguri Line	33.68	
		Unit- VI	70.15	-	-	
		Total	218.06	Auxiliary Consumption & Transformation Losses at Generator end	1.04%	
2	720MW MHP	Unit-I	84.84	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	79.86	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	83.58	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	79.51	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	105.90	
		-	-	400kV Jigmeling - Alipurduar Line - I (Interim)	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II (Interim)	-8.73	
		-	-	400kV Jigmeling - Alipurduar Line - I (Direct)	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II (Direct)	-13.73	
		-	-	80MVA, 220/132kV ICT - I (HV)	11.70	
		-	-	80MVA, 220/132kV ICT - II (HV)	12.00	
		-	-	220kV Tsirang - Jigmeling Line	-20.64	
-	-	132kV Gelephu - Salakati Line	8.00			
Total	164.70	Auxiliary Consumption & Transformation Losses at Generator end	0.98%			
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	-11.57	
		Unit- III	59.66	220kV CHP - Malbase Line- III	21.10	
		Unit- IV	59.83	220kV CHP - Semtokha Line- IV	85.49	
		-	-	220kV Malbase - Birpara Line	-35.07	
		-	-	66kV CHP - Chumdo Line	23.27	
		-	-	66kV CHP - Gedu Line	0.00	
		-	-	3x3MVA, 66/11kV TFR	1.41	
Total	119.49	Auxiliary Consumption & Transformation Losses at Generator end	-0.18%			
4	24MW BHP (U/S)	Unit- I	4.50	220kV BHP - Semtokha Line	49.52	
		Unit- II	4.30	66kV BHP - Lobeyasa Line	25.66	
		Total	8.80	220kV BHP - Tsirang Line	-48.47	
5	40MW BHP (L/S)	Unit- I	9.80	5MVA, 66/11kV TFR	0.53	
		Unit- II	8.50	30MVA ICT, 220/66kV (HV)	17.43	
		Total	18.30	Auxiliary Consumption & Transformation Losses at Generator end	-0.52%	
6	126MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	30.06	Unit-I under shutdown. 220kV DHP_Dagapela Line on Standby.
		Unit-II	30.30	220kV DHP - Dagapela Line	0.00	
		-	-	220kV Jigmeling - Dagapela Line	61.80	
		-	-	5MVA, 220/33kV TFR	0.20	
Total	30.30	Auxiliary Consumption & Transformation Losses at Generator end	0.13%			
7	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhor Line	15.63	Unit-I under Shutdown. Unit-II on Standby.
		Unit-II	0.00	132kV KHP - Kilikhar Line	14.19	
		Unit- III	15.35	5MVA, 132/11kV TFR	0.80	
		Unit- IV	15.31	132kV Motanga - Rangia Line	7.14	
		Total	30.66	Auxiliary Consumption & Transformation Losses at Generator end	0.13%	

Note: Generation-Load Summary (MW) for December 14, 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	394.95	369.33	367.38	46.26	1.95
2	Eastern Grid	195.36	182.04	180.39	-7.32	1.65
Total		590.31	551.37	547.77	38.94	3.60

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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	491.29	372.83	367.52	142.86	5.31
2	Eastern Grid	177.65	68.05	66.93	85.20	1.12
Total		668.94	440.88	434.45	228.06	6.43

Note:-

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