

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Coincidental Maximum Load

Date:	July 28, 2022
Hours:	19:00 Hours

Date	Time	Load(MW)
12-Jan-22	18:00hrs	492.25

Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Remarks
1	1020MW THP	Unit- I	186.61	400kV THP - Siliguri Line - I	0.00	400kV THP-Siliguri line I under breakdown.
		Unit- II	184.81	400kV THP - Siliguri Line - II	349.06	
		Unit- III	185.34	400kV THP - Siliguri Line - IV	334.00	
		Unit- IV	184.11	400kV THP - Malbase Line - III	421.57	
		Unit- V	184.56	400kV Malbase - Siliguri Line	312.79	
		Unit- VI	185.39	-	-	
		Total	1,110.82	Auxiliary Consumption & Transformation Losses at Generator end	0.56%	
2	720MW MHP	Unit-I	196.75	400kV MHP - Jigmeling Line - I	292.95	Unit III under shutdown. 400kV MHP-JLG line II & 400kV MHP-JLG Line IV on Standby. 132kV MHP_Yurmo line I & II not in service. 400kV JLG_ALI Line I & II(Interim) on standby. .
		Unit-II	197.27	400kV MHP - Jigmeling Line - II	0.00	
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	294.72	
		Unit-IV	197.56	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)	25.70	
		-	-	400kV Jigmeling - Alipurduar Line - I (Interim)	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II (Interim)	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I (Direct)	277.44	
		-	-	400kV Jigmeling - Alipurduar Line - II (Direct)	278.35	
		-	-	80MVA, 220/132kV ICT - I (HV)	39.62	
		-	-	80MVA, 220/132kV ICT - II (HV)	40.30	
		-	-	220kV Tsirang - Jigmeling Line	-25.79	
-	-	132kV Gelephu - Salakati Line	12.67			
Total	591.58	Auxiliary Consumption & Transformation Losses at Generator end	0.66%			
3	336MW CHP	Unit- I	91.74	220kV CHP - Birpara Line- I	65.09	Unit IV under Shutdown.
		Unit- II	91.22	220kV CHP - Birpara Line- II	64.72	
		Unit- III	91.45	220kV CHP - Malbase Line- III	78.81	
		Unit- IV	0.00	220kV CHP - Semtokha Line- IV	38.29	
		-	-	220kV Malbase - Birpara Line	46.13	
		-	-	66kV CHP - Chumdo Line	11.63	
		-	-	66kV CHP - Gedu Line	12.79	
		-	-	3x3MVA, 66/11kV TFR	1.19	
Total	274.41	Auxiliary Consumption & Transformation Losses at Generator end	0.69%			
4	24MW BHP (U/S)	Unit- I	12.40	220kV BHP - Semtokha Line	62.39	
		Unit- II	12.20	66kV BHP - Lobeyasa Line	25.91	
		Total	24.60	220kV BHP - Tsirang Line	-23.15	
5	40MW BHP (L/S)	Unit- I	20.50	5MVA, 66/11kV TFR	0.55	
		Unit- II	21.20	30MVA ICT, 220/66kV (HV)	2.62	
		Total	41.70	Auxiliary Consumption & Transformation Losses at Generator end	0.90%	
6	126MW DHP	Unit-I	63.56	220kV DHP - Tsirang Line	0.00	220kV DHP_Tsirang Line on Standby.
		Unit-II	63.15	220kV DHP - Dagapela Line	126.15	
		-	-	220kV Jigmeling - Dagapela Line	-79.39	
		-	-	5MVA, 220/33kV TFR	0.20	
Total	126.71	Auxiliary Consumption & Transformation Losses at Gen. end	0.28%			
7	60MW KHP	Unit- I	16.54	132kV KHP - Nangkhoh Line	39.40	
		Unit-II	16.53	132kV KHP - Kilikhar Line	25.66	
		Unit- III	16.64	5MVA, 132/11kV TFR	0.38	
		Unit- IV	16.50	132kV Motanga - Rangia Line	32.38	
		Total	66.21	Auxiliary Consumption & Transformation Losses at Generator end	1.16%	

Note: Generation-Load Summary (MW) for July 28, 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	1,578.24	352.85	343.81	1,171.79	9.04
2	Eastern Grid	657.79	110.55	105.87	600.84	4.68
Total		2,236.03	463.40	449.68	1,772.63	13.72

Note: Generation-Load Summary for July 28, 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	886.70	242.38	239.55	554.66	2.83
2	Eastern Grid	659.13	77.62	74.35	671.17	3.27
Total		1,545.83	320.00	313.90	1,225.83	6.10

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:	July 29, 2022
Hours:	09:00 Hours

Date	Time	Load(MW)
12-Jan-22	18:00hrs	492.25

Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Remarks
1	1020MW THP	Unit- I	180.18	400kV THP - Siliguri Line - I	0.00	400kV THP-Siliguri line I under breakdown.
		Unit- II	185.00	400kV THP - Siliguri Line - II	353.10	
		Unit- III	185.68	400kV THP - Siliguri Line - IV	338.12	
		Unit- IV	185.15	400kV THP - Malbase Line - III	409.55	
		Unit- V	184.22	400kV Malbase - Siliguri Line	319.76	
		Unit- VI	184.53	-	-	
		Total	1,104.76	Auxiliary Consumption & Transformation Losses at Generator end	0.36%	
2	720MW MHP	Unit-I	197.82	400kV MHP - Jigmeling Line - I	294.45	Unit III under shutdown. 400kV MHP-JLG line II & 400kV MHP-JLG Line IV on Standby. 132kV MHP_Yurmoo line I & II not in service. 400kV JLG_ALI Line I & II(Interim) on standby. .
		Unit-II	197.88	400kV MHP - Jigmeling Line - II	0.00	
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	296.33	
		Unit-IV	197.91	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)	5.30	
		-	-	400kV Jigmeling - Alipurduar Line - I (Interim)	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - II (Interim)	144.94	
		-	-	400kV Jigmeling - Alipurduar Line - I (Direct)	214.88	
		-	-	400kV Jigmeling - Alipurduar Line - II (Direct)	215.64	
		-	-	80MVA, 220/132kV ICT - I (HV)	26.07	
		-	-	80MVA, 220/132kV ICT - II (HV)	26.49	
		-	-	220kV Tsirang - Jigmeling Line	-10.19	
-	-	132kV Gelephu - Salakati Line	7.51			
Total	593.61	Auxiliary Consumption & Transformation Losses at Generator end	0.48%			
3	336MW CHP	Unit- I	91.74	220kV CHP - Birpara Line- I	62.26	Unit IV under Shutdown.
		Unit- II	91.22	220kV CHP - Birpara Line- II	62.46	
		Unit- III	91.45	220kV CHP - Malbase Line- III	88.34	
		Unit- IV	0.00	220kV CHP - Semtokha Line- IV	42.41	
		-	-	220kV Malbase - Birpara Line	34.53	
		-	-	66kV CHP - Chumdo Line	11.32	
		-	-	66kV CHP - Gedu Line	4.81	
		-	-	3x3MVA, 66/11kV TFR	0.91	
Total	274.41	Auxiliary Consumption & Transformation Losses at Generator end	0.69%			
4	24MW BHP (U/S)	Unit- I	12.50	220kV BHP - Semtokha Line	49.33	
		Unit- II	12.20	66kV BHP - Lobeyasa Line	24.38	
		Total	24.70	220kV BHP - Tsirang Line	-8.43	
5	40MW BHP (L/S)	Unit- I	20.50	5MVA, 66/11kV TFR	0.36	
		Unit- II	21.20	30MVA ICT, 220/66kV (HV)	0.37	
		Total	41.70	Auxiliary Consumption & Transformation Losses at Generator end	1.14%	
6	126MW DHP	Unit-I	50.32	220kV DHP - Tsirang Line	0.00	220kV DHP_TSI Line on Standby.
		Unit-II	53.98	220kV DHP - Dagapela Line	103.77	
		-	-	220kV Jigmeling - Dagapela Line	-57.80	
		-	-	5MVA, 220/33kV TFR	0.50	
Total	104.30	Auxiliary Consumption & Transformation Losses at Generator end	0.03%			
7	60MW KHP	Unit- I	16.58	132kV KHP - Nangkhoh Line	42.54	
		Unit-II	16.67	132kV KHP - Kilikhar Line	22.86	
		Unit- III	16.61	5MVA, 132/11kV TFR	0.35	
		Unit- IV	16.56	132kV Motanga - Rangia Line	31.56	
		Total	66.42	Auxiliary Consumption & Transformation Losses at Generator end	1.01%	

Note: Generation-Load Summary (MW) for July 29, 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	1,549.87	332.03	325.35	1,170.23	6.68
2	Eastern Grid	660.03	93.11	89.61	614.53	3.50
Total		2,209.90	425.14	414.96	1,784.76	10.18

Note: Generation-Load Summary for July 29, 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	1,349.02	271.61	265.64	965.91	5.97
2	Eastern Grid	642.59	72.43	67.82	681.66	4.61
Total		1,991.61	344.04	333.46	1,647.57	10.58

NOTE:

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