

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	July 27, 2021
Hours:	19:00 Hours

Date	Time	Load(MW)
27-Dec-18	18:18hrs	399.35MW

Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Sign	Remarks
1	1020MW THP	Unit- I	97.70	400kV THP - Siliguri Line - I	0.00		400kV THP-Siliguri Line I & II under breakdown.
		Unit- II	98.31	400kV THP - Siliguri Line - II	0.00		
		Unit- III	108.10	400kV THP - Siliguri Line- IV	275.91	+	
		Unit- IV	99.79	400kV THP - Malbase Line - III	321.30	+	
		Unit- V	97.62	400kV Malbase - Siliguri Line	260.56	+	
		Unit- VI	98.56	-	-	-	
		Total	600.08	Auxiliary Consumption & Transformation Losses at Gen. end	0.478%		
2	720MW MHP	Unit-I	197.84	400kV MHP - Jigmeling Line - I	294.03	+	Unit-III under Restoration . 400kV MHP-JLG Line II & IV on standby. 132kV MHP_Yurmoo line I & II not in service. 400kV JLG_ALI Line II(Interim) under shutdown.
		Unit-II	197.40	400kV MHP - Jigmeling Line - II	0.00		
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	295.66	+	
		Unit-IV	197.85	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)	-42.39	-	
		-	-	400kV Jigmeling - Alipurduar Line - I (Interim)	156.50	+	
		-	-	400kV Jigmeling - Alipurduar Line - II (Interim)	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - I (Direct)	234.71	+	
		-	-	400kV Jigmeling - Alipurduar Line - II (Direct)	233.58	+	
		-	-	80MVA, 220/132kV ICT - I (HV)	36.21	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	36.24	+	
		-	-	220kV Tsirang - Jigmeling Line	114.58	+	
-	-	132kV Gelephu - Salakati Line	24.38	+			
Total	593.09	Auxiliary Consumption & Transformation Losses at Gen. end	0.573%				
3	336MW CHP	Unit- I	92.10	220kV CHP - Birpara Line- I	102.77	+	
		Unit- II	90.47	220kV CHP - Birpara Line- II	102.87	+	
		Unit- III	92.35	220kV CHP - Malbase Line- III	131.99	+	
		Unit- IV	92.16	220kV CHP - Semtokha Line- IV	12.64	+	
		-	-	220kV Malbase - Birpara Line	66.18	+	
		-	-	66kV CHP - Chumdo Line	8.63	+	
		-	-	66kV CHP - Gedu Line	5.53	+	
		-	-	3x3MVA, 66/11kV TFR	1.20	+	
		Total	367.08	Auxiliary Consumption & Transformation Losses at Gen. end	0.395%		
4	24MW BHP (U/S)	Unit- I	12.30	220kV BHP - Semtokha Line	46.50	+	
		Unit- II	12.10	66kV BHP - Lobeysa Line	26.19	+	
		Total	24.40	220kV BHP - Tsirang Line	-7.70	-	
5	40MW BHP (L/S)	Unit- I	20.50	5MVA, 66/11kV TFR	0.89	+	
		Unit- II	21.00	30MVA ICT, 220/66kV (HV)	2.68	+	
		Total	41.50	Auxiliary Consumption & Transformation Losses at Gen. end	0.030%		
6	126MW DHP	Unit-I	63.63	220kV DHP - Tsirang Line	126.38	+	220kV DHP_Dagapela Line on standby.
		Unit-II	63.22	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	1.50	+	
		-	-	5MVA, 220/33kV TFR	0.30	+	
		Total	126.85	Auxiliary Consumption & Transformation Losses at Gen. end	0.134%		
7	60MW KHP	Unit- I	16.57	132kV KHP - Nangkhoh Line	36.64	+	
		Unit-II	16.46	132kV KHP - Kilikhar Line	28.46	+	
		Unit- III	16.48	5MVA, 132/11kV TFR	0.90	+	
		Unit- IV	16.61	132kV Motanga - Rangia Line	54.96	+	
		Total	66.12	Auxiliary Consumption & Transformation Losses at Gen. end	0.181%		

Note: Generation-Load Summary (MW) for July 27, 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) at Generator end.
1	Western Grid	1,159.91	237.04	234.03	808.29	3.01
2	Eastern Grid	659.21	69.66	66.14	704.13	3.52
	Total	1,819.12	306.70	300.17	1,512.42	6.53

Note: Generation-Load Summary for July 27, 2020 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
1	Western Grid	1,679.71	224.43	206.36	1,365.67	18.07
2	Eastern Grid	660.02	50.60	48.32	699.03	2.28
	Total	2,339.73	275.03	254.68	2,064.70	20.35

NOTE-BHP & MHP data collected from site

- The Instantaneous load balance is 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

Maximum Load/Demand till Date

Date:	July 28, 2021
Hours:	09:00 Hours

Date	Time	Load(MW)
27-Dec-18	18:18hrs	399.35MW

Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Sign	Remarks
1	1020MW THP	Unit- I	97.87	400kV THP - Siliguri Line - I	0.00		400kV THP-Siliguri Line I & II under breakdown.
		Unit- II	98.60	400kV THP - Siliguri Line - II	0.00		
		Unit- III	108.43	400kV THP - Siliguri Line- IV	280.98	+	
		Unit- IV	100.07	400kV THP - Malbase Line - III	315.29	+	
		Unit- V	96.90	400kV Malbase - Siliguri Line	270.62	+	
		Unit- VI	98.54	-	-	-	
		Total	600.41	Auxiliary Consumption & Transformation Losses at Generator end	0.690%		
2	720MW MHP	Unit-I	197.97	400kV MHP - Jigmeling Line - I	294.15	+	Unit-III under Restoration. 400kV MHP-JLG Line II & IV on standby. 132kV MHP_Yurmo line I & II not in service. 400kV JLG_ALI Line II (Interim) under standby.
		Unit-II	197.89	400kV MHP - Jigmeling Line - II	0.00		
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	295.83	+	
		Unit-IV	197.95	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)	-49.60	-	
		-	-	400kV Jigmeling - Alipurduar Line - I (Interim)	150.10	+	
		-	-	400kV Jigmeling - Alipurduar Line - II (Interim)	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - I (Direct)	237.00	+	
		-	-	400kV Jigmeling - Alipurduar Line - II (Direct)	237.00	+	
		-	-	80MVA, 220/132kV ICT - I (HV)	26.80	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	26.70	+	
		-	-	220kV Tsirang - Jigmeling Line	104.74	+	
-	-	132kV Gelephu - Salakati Line	23.69	+			
Total	593.81	Auxiliary Consumption & Transformation Losses at Generator end	0.645%				
3	336MW CHP	Unit- I	92.10	220kV CHP - Birpara Line- I	102.09	+	
		Unit- II	90.47	220kV CHP - Birpara Line- II	101.79	+	
		Unit- III	92.35	220kV CHP - Malbase Line- III	133.45	+	
		Unit- IV	92.16	220kV CHP - Semtokha Line- IV	14.73	+	
		-	-	220kV Malbase - Birpara Line	63.17	+	
		-	-	66kV CHP - Chumdo Line	6.60	+	
		-	-	66kV CHP - Gedu Line	5.15	+	
		-	-	3x3MVA, 66/11kV TFR	0.73	+	
Total	367.08	Auxiliary Consumption & Transformation Losses at Generator end	0.692%				
4	24MW BHP (U/S)	Unit- I	20.50	220kV BHP - Semtokha Line	38.60	+	
		Unit- II	21.10	66kV BHP - Lobeysa Line	23.50	+	
		Total	41.60	220kV BHP - Tsirang Line	1.35	+	
5	40MW BHP (L/S)	Unit- I	12.30	5MVA, 66/11kV TFR	0.89	+	
		Unit- II	12.20	30MVA ICT, 220/66kV (HV)	1.48	+	
		Total	24.50	Auxiliary Consumption & Transformation Losses at Generator end	2.663%		
6	126MW DHP	Unit-I	53.43	220kV DHP - Tsirang Line	106.02	+	220kV DHP_Dagapela Line on standby.
		Unit-II	53.02	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	1.10	+	
		-	-	5MVA, 220/33kV TFR	0.30	+	
		Total	106.45	Auxiliary Consumption & Transformation Losses at Generator end	0.122%		
7	60MW KHP	Unit- I	16.54	132kV KHP - Nangkhon Line	41.08	+	
		Unit-II	16.51	132kV KHP - Kilikhar Line	24.19	+	
		Unit- III	16.59	5MVA, 132/11kV TFR	0.11	+	
		Unit- IV	16.45	132kV Motanga - Rangia Line	40.96	+	
		Total	66.09	Auxiliary Consumption & Transformation Losses at Generator end	1.074%		

Note: Generation-Load Summary (MW) for July 28, 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) at Generator end.
1	Western Grid	1,140.04	216.65	209.18	818.65	7.47
2	Eastern Grid	659.90	75.89	71.35	688.75	4.54
	Total	1,799.94	292.54	280.53	1,507.40	12.01

Note: Generation-Load Summary for July 28, 2020 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
1	Western Grid	1,679.71	237.05	218.38	1,365.67	18.67
2	Eastern Grid	659.91	40.61	38.08	696.29	2.53
	Total	2,339.62	277.66	256.46	2,061.96	21.20

NOTE- BHP & MHP data collected from site

- The Instantaneous load balance is 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.
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