

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date: **August 5, 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	185.29	400kV THP - Siliguri Line - I	0.00		400kV THP-Siliguri Line I under maintenance.
		Unit- II	183.14	400kV THP - Siliguri Line - II	353.88	+	
		Unit- III	186.04	400kV THP - Siliguri Line- IV	337.54	+	
		Unit- IV	184.69	400kV THP - Malbase Line - III	414.88	+	
		Unit- V	184.96	400kV Malbase - Siliguri Line	312.36	+	
		Unit- VI	184.91	-	-	-	
		Total	1,109.03	Auxiliary Consumption & Transformation Losses at Gen. end	0.246%		
2	720MW MHP	Unit-I	197.67	400kV MHP - Jigmeling Line - I	290.20	+	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 I(Interim) on standby.
		Unit-II	197.14	400kV MHP - Jigmeling Line - II	0.00		
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	290.20	+	
		Unit-IV	197.89	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)	-14.20	-	
		-	-	400kV Jigmeling - Alipurduar Line - I (Interim)	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - II (Interim)	148.30	+	
		-	-	400kV Jigmeling - Alipurduar Line - I (Direct)	224.50	+	
		-	-	400kV Jigmeling - Alipurduar Line - II (Direct)	223.00	+	
		-	-	80MVA, 220/132kV ICT - I (HV)	29.70	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	29.80	+	
		-	-	220kV Tsirang - Jigmeling Line	73.63	+	
-	-	132kV Gelephu - Salakati Line	20.32	+			
Total	592.70	Auxiliary Consumption & Transformation Losses at Gen. end	2.075%				
3	336MW CHP	Unit- I	91.66	220kV CHP - Birpara Line- I	97.94	+	
		Unit- II	91.15	220kV CHP - Birpara Line- II	97.73	+	
		Unit- III	91.36	220kV CHP - Malbase Line- III	126.05	+	
		Unit- IV	91.71	220kV CHP - Semtokha Line- IV	24.73	+	
		-	-	220kV Malbase - Birpara Line	62.06	+	
		-	-	66kV CHP - Chumdo Line	10.02	+	
		-	-	66kV CHP - Gedu Line	6.25	+	
		-	-	3x3MVA, 66/11kV TFR	1.20	+	
		Total	365.88	Auxiliary Consumption & Transformation Losses at Gen. end	0.536%		
4	24MW BHP (U/S)	Unit- I	12.10	220kV BHP - Semtokha Line	43.23	+	Lobeysa Line
		Unit- II	11.80	66kV BHP - Lobeysa Line	26.40	+	
		Total	23.90	220kV BHP - Tsirang Line	-6.86	-	
5	40MW BHP (L/S)	Unit- I	20.50	5MVA, 66/11kV TFR	0.91	+	
		Unit- II	21.10	30MVA ICT, 220/66kV (HV)	5.17	+	
		Total	41.60	Auxiliary Consumption & Transformation Losses at Gen. end	2.779%		
6	126MW DHP	Unit-I	54.33	220kV DHP - Tsirang Line	83.88	+	220kV DHP_Dagapela Line on standby.
		Unit-II	30.00	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	1.40	+	
		-	-	5MVA, 220/33kV TFR	0.30	+	
		Total	84.33	Auxiliary Consumption & Transformation Losses at Gen. end	0.178%		
7	60MW KHP	Unit- I	16.54	132kV KHP - Nangkhoh Line	36.69	+	
		Unit-II	16.59	132kV KHP - Kilikhar Line	28.33	+	
		Unit- III	16.51	5MVA, 132/11kV TFR	0.38	+	
		Unit- IV	16.54	132kV Motanga - Rangia Line	44.52	+	
		Total	66.18	Auxiliary Consumption & Transformation Losses at Gen. end	1.179%		

Note: Generation-Load Summary (MW) for August 05, 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	1,624.74	289.60	284.34	1,261.51	5.26
2	Eastern Grid	658.88	71.87	58.79	660.64	13.08
	Total	2,283.62	361.47	343.13	1,922.15	18.34

Note: Generation-Load Summary for August 05, 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	1,679.69	230.71	211.37	1,346.43	19.34
2	Eastern Grid	830.98	70.31	65.09	863.22	5.22
	Total	2,510.67	301.02	276.46	2,209.65	24.56

NOTE-BHP 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:	August 6, 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	184.23	400kV THP - Siliguri Line - I	0.00		400kV THP-Siliguri Line I under maintenance.
		Unit- II	186.05	400kV THP - Siliguri Line - II	360.05	+	
		Unit- III	185.09	400kV THP - Siliguri Line- IV	343.85	+	
		Unit- IV	184.50	400kV THP - Malbase Line - III	402.07	+	
		Unit- V	184.56	400kV Malbase - Siliguri Line	323.82	+	
		Unit- VI	185.74	-	-	-	
		Total	1,110.17	Auxiliary Consumption & Transformation Losses at Generator end	0.378%		
2	720MW MHP	Unit-I	197.82	400kV MHP - Jigmeling Line - I	294.64	+	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 I(Interim) on standby.
		Unit-II	197.89	400kV MHP - Jigmeling Line - II	0.00		
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	296.33	+	
		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)	-29.60	-	
		-	-	400kV Jigmeling - Alipurduar Line - I (Interim)	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - II (Interim)	152.00	+	
		-	-	400kV Jigmeling - Alipurduar Line - I (Direct)	230.00	+	
		-	-	400kV Jigmeling - Alipurduar Line - II (Direct)	230.00	+	
		-	-	80MVA, 220/132kV ICT - I (HV)	23.50	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	23.50	+	
		-	-	220kV Tsirang - Jigmeling Line	77.57	+	
-	-	132kV Gelephu - Salakati Line	18.43	+			
Total	593.56	Auxiliary Consumption & Transformation Losses at Generator end	0.436%				
3	336MW CHP	Unit- I	91.47	220kV CHP - Birpara Line- I	99.96	+	
		Unit- II	91.09	220kV CHP - Birpara Line- II	99.70	+	
		Unit- III	91.83	220kV CHP - Malbase Line- III	133.31	+	
		Unit- IV	91.58	220kV CHP - Semtokha Line- IV	18.85	+	
		-	-	220kV Malbase - Birpara Line	59.67	+	
		-	-	66kV CHP - Chumdo Line	6.43	+	
		-	-	66kV CHP - Gedu Line	5.68	+	
		-	-	3x3MVA, 66/11kV TFR	0.66	+	
Total	365.97	Auxiliary Consumption & Transformation Losses at Generator end	0.377%				
4	24MW BHP (U/S)	Unit- I	11.80	220kV BHP - Semtokha Line	40.20	+	
		Unit- II	11.60	66kV BHP - Lobeyssa Line	23.10	+	
		Total	23.40	220kV BHP - Tsirang Line	-2.09	-	
5	40MW BHP (L/S)	Unit- I	20.10	5MVA, 66/11kV TFR	0.90	+	
		Unit- II	20.30	30MVA ICT, 220/66kV (HV)	3.33	+	
		Total	40.40	Auxiliary Consumption & Transformation Losses at Generator end	2.649%		
6	126MW DHP	Unit-I	51.37	220kV DHP - Tsirang Line	81.98	+	220kV DHP_Dagapela Line on standby.
		Unit-II	31.00	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	0.70	+	
		-	-	5MVA, 220/33kV TFR	0.30	+	
		Total	82.37	Auxiliary Consumption & Transformation Losses at Generator end	0.109%		
7	60MW KHP	Unit- I	16.50	132kV KHP - Nangkhoh Line	40.95	+	
		Unit-II	16.50	132kV KHP - Kilikhar Line	24.28	+	
		Unit- III	16.50	5MVA, 132/11kV TFR	0.33	+	
		Unit- IV	16.50	132kV Motanga - Rangia Line	42.10	+	
		Total	66.00	Auxiliary Consumption & Transformation Losses at Generator end	0.667%		

Note: Generation-Load Summary (MW) for August 06, 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	1,622.31	257.69	251.03	1,287.05	6.66
2	Eastern Grid	659.56	64.60	61.57	672.53	3.03
Total		2,281.87	322.29	312.60	1,959.58	9.69

Note: Generation-Load Summary for August 06, 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	1,555.73	235.38	225.72	1,247.53	9.66
2	Eastern Grid	436.81	44.88	44.42	464.75	0.46
Total		1,992.54	280.26	270.14	1,712.28	10.12

NOTE-BHP and MHPA 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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