

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	June 14, 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	187.20	400kV THP - Siliguri Line - I	0.00		400kV THP-Siliguri Line I under maintenance
		Unit- II	187.60	400kV THP - Siliguri Line - II	358.00	+	
		Unit- III	187.00	400kV THP - Siliguri Line- IV	340.00	+	
		Unit- IV	187.20	400kV THP - Malbase Line - III	407.00	+	
		Unit- V	187.10	400kV Malbase - Siliguri Line	326.00	+	
		Unit- VI	187.18	-	-	-	
		Total	1,123.28	Error at Station/Auxiliary Consumption/Losses		1.627%	
2	720MW MHP	Unit-I	197.83	400kV MHP - Jigmeling Line - I	294.14	+	Unit-III on breakdown. 400kV MHP_JLG line II and IV on standby. 132kV MHP_Yurmoo line I & II not in service.
		Unit-II	197.94	400kV MHP - Jigmeling Line - II	0.00		
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	295.81	+	
		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)	-10.61	-	
		-	-	400kV Jigmeling - Alipurduar Line - I	298.15	+	
		-	-	400kV Jigmeling - Alipurduar Line - II	296.60	+	
		-	-	80MVA, 220/132kV ICT - I (HV)	44.90	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	45.00	+	
		-	-	220kV Tsirang - Jigmeling Line	101.76	+	
		-	-	132kV Gelephu - Salakati Line	41.13	+	
Total	593.66	Error at Station/Auxiliary Consumption/Losses		0.625%			
3	336MW CHP	Unit- I	92.30	220kV CHP - Birpara Line- I	89.71	+	
		Unit- II	91.53	220kV CHP - Birpara Line- II	89.61	+	
		Unit- III	91.99	220kV CHP - Malbase Line- III	115.29	+	
		Unit- IV	92.20	220kV CHP - Semtokha Line- IV	55.63	+	
		-	-	220kV Malbase - Birpara Line	55.00	+	
		-	-	66kV CHP - Chumdo Line	10.40	+	
		-	-	66kV CHP - Gedu Line	3.70	+	
		-	-	3x3MVA, 66/11kV TFR	1.17	+	
Total	368.02	Error at Station/Auxiliary Consumption/Losses		0.682%			
4	24MW BHP (U/S)	Unit- I	8.30	220kV BHP - Semtokha Line	0.00		220kV BHP-SEM line under shutdown. 30MVA ICT(220/66kV) kept open at LV side.
		Unit- II	8.00	66kV BHP - Lobeyasa Line	13.90	+	
		Total	16.30	220kV BHP - Tsirang Line	28.68	+	
	40MW BHP (L/S)	Unit- I	14.40	5MVA, 66/11kV TFR	0.90	+	
		Unit- II	14.60	30MVA ICT, 220/66kV (HV)	0.00		
Total	29.00	Error at Station/Auxiliary Consumption/Losses		4.018%			
5	126MW DHP	Unit-I	37.41	220kV DHP - Tsirang Line	75.99	+	220kV DHP_Dagapela Line on standby.
		Unit-II	39.05	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	1.60	+	
		-	-	5MVA, 220/33kV TFR	0.40	+	
		Total	76.46	Error at Station/Auxiliary Consumption/Losses		0.092%	
6	60MW KHP	Unit- I	16.50	132kV KHP - Nangkhor Line	58.18	+	
		Unit-II	16.50	132kV KHP - Kilikhar Line	7.20	+	
		Unit- III	16.50	5MVA, 132/11kV TFR	0.37	+	
		Unit- IV	16.50	132kV Motanga - Rangia Line	52.31	+	
		Total	66.00	Error at Station/Auxiliary Consumption/Losses		0.379%	

Note: Generation-Load Summary (MW) for June 14, 2021 at 19:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Load Balance (MW)
1	Western Grid	1,613.06	252.98	231.90	1,258.32	21.08
2	Eastern Grid	659.66	73.23	69.27	688.19	3.96
Total		2,272.72	326.21	301.17	1,946.51	25.04

Note: Generation-Load Summary for June 14, 2020 at 19:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Load Balance (MW)
1	Western Grid	1,452.27	219.17	191.33	1,148.20	27.84
2	Eastern Grid	659.53	51.36	47.21	693.07	4.15
Total		2,111.80	270.53	238.54	1,841.27	31.99

NOTE-ALL DATA COLLECTED FROM SITE.

1. 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:

- i) 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.
- ii) The clocks of all the locations are not synchronized.

2. 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:	June 15, 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	187.63	400kV THP - Siliguri Line - I	0.00		400kV THP-Siliguri Line I under maintenance.
		Unit- II	187.30	400kV THP - Siliguri Line - II	360.00	+	
		Unit- III	187.50	400kV THP - Siliguri Line- IV	401.00	+	
		Unit- IV	188.20	400kV THP - Malbase Line - III	342.00	+	
		Unit- V	187.30	400kV Malbase - Siliguri Line	356.00	+	
		Unit- VI	188.40	-	-	-	
		Total	1,126.33	Error at Station/Auxiliary Consumption/Losses		2.071%	
2	720MW MHP	Unit-I	197.81	400kV MHP - Jigmeling Line - I	294.68	+	Unit-III on breakdown 400kV MHP-JLG Line II & IV on standby. 132kV MHP_Yurmo line I & II not in service.
		Unit-II	197.25	400kV MHP - Jigmeling Line - II	0.00		
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	296.41	+	
		Unit-IV	197.61	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)	31.63	+	
		-	-	400kV Jigmeling - Alipurduar Line - I	306.87	+	
		-	-	400kV Jigmeling - Alipurduar Line - II	306.88	+	
		-	-	80MVA, 220/132kV ICT - I (HV)	37.57	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	37.65	+	
		-	-	220kV Tsirang - Jigmeling Line	108.50	+	
		-	-	132kV Gelephu - Salakati Line	37.60	+	
Total	592.67	Error at Station/Auxiliary Consumption/Losses		0.267%			
3	336MW CHP	Unit- I	92.00	220kV CHP - Birpara Line- I	89.39	+	
		Unit- II	92.00	220kV CHP - Birpara Line- II	89.07	+	
		Unit- III	92.00	220kV CHP - Malbase Line- III	128.12	+	
		Unit- IV	92.00	220kV CHP - Semtokha Line- IV	46.49	+	
		-	-	220kV Malbase - Birpara Line	46.00	+	
		-	-	66kV CHP - Chumdo Line	7.40	+	
		-	-	66kV CHP - Gedu Line	4.10	+	
		-	-	3x3MVA, 66/11kV TFR	0.69	+	
Total	368.00	Error at Station/Auxiliary Consumption/Losses		0.745%			
4	24MW BHP (U/S)	Unit- I	7.90	220kV BHP - Semtokha Line	0.00		220kV BHP_SEM line under shutdown. 30MVA ICT(220/66kV) kept open.
		Unit- II	7.60	66kV BHP - Lobeyasa Line	14.50	+	
		Total	15.50	220kV BHP - Tsirang Line	28.26	+	
	40MW BHP (L/S)	Unit- I	14.40	5MVA, 66/11kV TFR	0.87	+	
		Unit- II	14.20	30MVA ICT, 220/66kV (HV)	0.00		
Total	28.60	Error at Station/Auxiliary Consumption/Losses		1.066%			
5	126MW DHP	Unit-I	20.23	220kV DHP - Tsirang Line	82.85	+	220kV DHP_Dagapela Line on standby.
		Unit-II	63.02	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	1.24	+	
		-	-	5MVA, 220/33kV TFR	0.30	+	
		Total	83.25	Error at Station/Auxiliary Consumption/Losses		0.120%	
6	60MW KHP	Unit- I	16.50	132kV KHP - Nangkhor Line	60.91	+	
		Unit-II	16.50	132kV KHP - Kilikhar Line	4.44	+	
		Unit- III	16.50	5MVA, 132/11kV TFR	0.35	+	
		Unit- IV	16.50	132kV Motanga - Rangia Line	48.57	+	
		Total	66.00	Error at Station/Auxiliary Consumption/Losses		0.455%	

Note: Generation-Load Summary (MW) for June 15, 2021 at 09:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Load Balance (MW)
1	Western Grid	1,621.68	171.72	146.32	1,341.46	25.40
2	Eastern Grid	658.67	67.25	65.37	699.92	1.88
Total		2,280.35	238.97	211.69	2,041.38	27.28

Note: Generation-Load Summary for June 15, 2020 at 09:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Load Balance (MW)
1	Western Grid	1,546.42	212.00	193.82	1,272.62	18.18
2	Eastern Grid	658.73	40.44	35.32	680.09	5.12
Total		2,205.15	252.44	229.14	1,952.71	23.30

NOTE-ALL 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.
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