

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	May 6, 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	170.62	400kV THP - Siliguri Line - I	227.63	+	Unit-III & IV under AMP. 400kV THP_SIL Line II & IV on Standby.
		Unit- II	96.50	400kV THP - Siliguri Line - II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Line- IV	0.00		
		Unit- IV	0.00	400kV THP - Malbase Line - III	300.18	+	
		Unit- V	99.72	400kV Malbase - Siliguri Line	195.63	+	
		Unit- VI	169.98	-	-	-	
		Total	536.82	Error at Station/Auxiliary Consumption/Losses		1.678%	
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Line - I	146.49	+	Unit-I under AMP. Unit -III under breakdown. 400kV MHP-JLG Line II & III on standby. 132kV MHP_Yurmoo line I & II not in service. 400/220kV ICT at JLG not in service. 400kV JLG_ALI line II on standby.
		Unit-II	144.77	400kV MHP - Jigmeling Line - II	0.00		
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	150.29	400kV MHP - Jigmeling Line - IV	146.79	+	
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	0.00		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - I	290.08	+	
		-	-	400kV Jigmeling - Alipurduar Line - II	0.00		
		-	-	80MVA, 220/132kV ICT - I (HV)	14.10	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	14.10	+	
		-	-	220kV Tsirang - Jigmeling Line	15.51	+	
		-	-	132kV Gelephu - Salakati Line	-14.16	-	
Total	295.06	Error at Station/Auxiliary Consumption/Losses		0.603%			
3	336MW CHP	Unit- I	68.05	220kV CHP - Birpara Line- I	35.24	+	Unit-IV under AMP.
		Unit- II	64.96	220kV CHP - Birpara Line- II	35.06	+	
		Unit- III	69.72	220kV CHP - Malbase Line- III	64.33	+	
		Unit- IV	0.00	220kV CHP - Semtokha Line- IV	48.58	+	
		-	-	220kV Malbase - Birpara Line	8.22	-	
		-	-	66kV CHP - Chumdo Line	12.14	+	
		-	-	66kV CHP - Gedu Line	5.10	+	
		-	-	3x3MVA, 66/11kV TFR	1.50	+	
Total	202.73	Error at Station/Auxiliary Consumption/Losses		0.385%			
4	24MW BHP (U/S)	Unit- I	8.60	220kV BHP - Semtokha Line	22.07	+	
		Unit- II	8.30	66kV BHP - Lobeyasa Line	12.60	+	
		Total	16.90	220kV BHP - Tsirang Line	2.10	+	
	40MW BHP (L/S)	Unit- I	10.60	5MVA, 66/11kV TFR	0.87	+	
		Unit- II	10.40	30MVA ICT, 220/66kV (HV)	-3.37	+	
		Total	21.00	Error at Station/Auxiliary Consumption/Losses		0.686%	
5	126MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	20.28	+	Unit-I on standby. 220kV DHP_Dagapela Line on standby.
		Unit-II	20.54	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	1.90	+	
		-	-	5MVA, 220/33kV TFR	0.25	+	
		Total	20.54	Error at Station/Auxiliary Consumption/Losses		0.049%	
6	60MW KHP	Unit- I	12.46	132kV KHP - Nangkhor Line	19.00	+	Unit- IV on Standby.
		Unit-II	12.45	132kV KHP - Kilikhar Line	17.42	+	
		Unit- III	12.37	5MVA, 132/11kV TFR	0.41	+	
		Unit- IV	0.00	132kV Motanga - Rangia Line	16.02	+	
		Total	37.28	Error at Station/Auxiliary Consumption/Losses		1.220%	

Note: Generation-Load Summary (MW) for May 06, 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	797.99	280.70	272.54	501.78	8.16
2	Eastern Grid	332.34	55.91	53.68	291.94	2.24
Total		1,130.33	336.61	326.22	793.72	10.40

Note: Generation-Load Summary for May 06, 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	648.07	227.40	217.24	393.57	10.16
2	Eastern Grid	334.40	64.85	63.16	296.65	1.69
Total		982.47	292.25	280.40	690.22	11.85

NOTE-BHP & MHP data collected 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:	May 7, 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	168.50	400kV THP - Siliguri Line - I	220.97	+	Unit-II on standby. Unit-III & IV under AMP. 400kV THP_SIL Line II & IV on Standby.
		Unit- II	0.00	400kV THP - Siliguri Line - II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Line- IV	0.00		
		Unit- IV	0.00	400kV THP - Malbase Line - III	248.17	+	
		Unit- V	168.55	400kV Malbase - Siliguri Line	198.99	+	
		Unit- VI	139.66	-	-	-	
		Total	476.71	Error at Station/Auxiliary Consumption/Losses		1.588%	
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Line - I	0.00	+	Unit-I under AMP. Unit -III under breakdown. 400kV MHP-JLG Line I & III on standby. 132kV MHP_Yurmo line I & II not in service. 400/220kV ICT at JLG not in service. 400kV JLG_ALI line II on standby.
		Unit-II	130.17	400kV MHP - Jigmeling Line - II	129.90		
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	130.58	400kV MHP - Jigmeling Line - IV	129.70	+	
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	0.00		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	0.00		
		-	-	400kV Jigmeling - Alipurduar Line - I	256.80	+	
		-	-	400kV Jigmeling - Alipurduar Line - II	0.00		
		-	-	80MVA, 220/132kV ICT - I (HV)	10.10	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	10.10	+	
		-	-	220kV Tsirang - Jigmeling Line	21.36	+	
		-	-	132kV Gelephu - Salakati Line	1.22	-	
Total	260.75	Error at Station/Auxiliary Consumption/Losses		0.441%			
3	336MW CHP	Unit- I	76.89	220kV CHP - Birpara Line- I	54.39	+	CHP Unit-IV under shutdown.
		Unit- II	78.24	220kV CHP - Birpara Line- II	54.36	+	
		Unit- III	78.57	220kV CHP - Malbase Line- III	96.32	+	
		Unit- IV	0.00	220kV CHP - Semtokha Line- IV	14.58	+	
		-	-	220kV Malbase - Birpara Line	14.69	+	
		-	-	66kV CHP - Chumdo Line	7.01	+	
		-	-	66kV CHP - Gedu Line	5.67	+	
		-	-	3x3MVA, 66/11kV TFR	1.00	+	
Total	233.70	Error at Station/Auxiliary Consumption/Losses		0.158%			
4	24MW BHP (U/S)	Unit- I	0.00	220kV BHP - Semtokha Line	21.05	+	U/S Unit-I under standby.
		Unit- II	8.10	66kV BHP - Lobeyasa Line	7.30	+	
		Total	8.10	220kV BHP - Tsirang Line	-4.10	-	
	40MW BHP (L/S)	Unit- I	9.20	5MVA, 66/11kV TFR	0.84	+	
		Unit- II	7.10	30MVA ICT, 220/66kV (HV)	1.20	+	
		Total	16.30	Error at Station/Auxiliary Consumption/Losses		-2.828%	
5	126MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	27.56	+	Unit-I on standby. 220kV DHP_Dagapela Line on standby.
		Unit-II	27.77	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	1.00	+	
		-	-	5MVA, 220/33kV TFR	0.23	+	
		Total	27.77	Error at Station/Auxiliary Consumption/Losses		-0.072%	
6	60MW KHP	Unit- I	13.08	132kV KHP - Nangkhor Line	33.25	+	
		Unit-II	13.09	132kV KHP - Kilikhar Line	18.21	+	
		Unit- III	13.12	5MVA, 132/11kV TFR	0.30	+	
		Unit- IV	13.06	132kV Motanga - Rangia Line	25.65	+	
		Total	52.35	Error at Station/Auxiliary Consumption/Losses		1.127%	

Note: Generation-Load Summary (MW) for May 07, 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	762.58	197.82	191.59	543.40	6.23
2	Eastern Grid	313.10	50.79	49.05	283.67	1.74
Total		1,075.68	248.61	240.64	827.07	7.97

Note: Generation-Load Summary for May 07, 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	593.80	198.31	190.38	378.04	7.93
2	Eastern Grid	334.45	49.60	44.41	302.30	5.19
Total		928.25	247.91	234.79	680.34	13.12

NOTE- BHP & MHP data collected 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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