

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	May 11, 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	0.00	400kV THP - Siliguri Line - I	105.92	+	Unit-I & III under AMP. Unit-V on standby. 400kV THP_SIL Line II & IV on Standby.
		Unit- II	69.68	400kV THP - Siliguri Line - II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Line- IV	0.00		
		Unit- IV	69.73	400kV THP - Malbase Line - III	100.35	+	
		Unit- V	0.00	400kV Malbase - Siliguri Line	98.96	+	
		Unit- VI	70.96	-	-	-	
		Total	210.37	Error at Station/Auxiliary Consumption/Losses		1.949%	
2	720MW MHP	Unit-I	79.81	400kV MHP - Jigmeling Line - I	0.00		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	80.19	400kV MHP - Jigmeling Line - II	119.49	+	
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	80.42	400kV MHP - Jigmeling Line - IV	119.64	+	
		-	-	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	236.00	+	
		-	-	400kV Jigmeling - Alipurduar Line - II	0.00		
		-	-	80MVA, 220/132kV ICT - I (HV)	8.18	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	8.8.19	+	
		-	-	220kV Tsirang - Jigmeling Line	18.49	+	
		-	-	132kV Gelephu - Salakati Line	-19.60	-	
Total	240.42	Error at Station/Auxiliary Consumption/Losses		0.537%			
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Line- I	-3.75	-	Unit-I & II on standby.
		Unit- II	0.00	220kV CHP - Birpara Line- II	-3.47	-	
		Unit- III	68.28	220kV CHP - Malbase Line- III	79.76	+	
		Unit- IV	65.44	220kV CHP - Semtokha Line- IV	37.12	+	
		-	-	220kV Malbase - Birpara Line	-66.93	-	
		-	-	66kV CHP - Chumdo Line	18.83	+	
		-	-	66kV CHP - Gedu Line	3.42	+	
		-	-	3x3MVA, 66/11kV TFR	1.50	+	
Total	133.72	Error at Station/Auxiliary Consumption/Losses		0.232%			
4	24MW BHP (U/S)	Unit- I	0.00	220kV BHP - Semtokha Line	4.58	+	Upper Stage Unit I and Lower Stage Unit I on standby.
		Unit- II	6.70	66kV BHP - Lobeyasa Line	9.40	+	
		Total	6.70	220kV BHP - Tsirang Line	3.80	+	
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.91	+	
		Unit- II	12.00	30MVA ICT, 220/66kV (HV)	3.62	+	
Total	12.00	Error at Station/Auxiliary Consumption/Losses		0.053%			
5	126MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	15.70	+	Unit-I on standby. 220kV DHP_Dagapela Line on standby.
		Unit-II	15.95	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	1.91	+	
		-	-	5MVA, 220/33kV TFR	0.18	+	
		Total	15.95	Error at Station/Auxiliary Consumption/Losses		0.439%	
6	60MW KHP	Unit- I	11.04	132kV KHP - Nangkhor Line	23.90	+	
		Unit-II	11.04	132kV KHP - Kilikhar Line	19.40	+	
		Unit- III	11.06	5MVA, 132/11kV TFR	0.51	+	
		Unit- IV	11.11	132kV Motanga - Rangia Line	18.70	+	
		Total	44.25	Error at Station/Auxiliary Consumption/Losses		0.988%	

Note: Generation-Load Summary (MW) for May 11, 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	378.74	229.52	226.94	130.73	2.58
2	Eastern Grid	284.67	68.06	66.33	235.10	1.73
Total		663.41	297.58	293.27	365.83	4.31

Note: Generation-Load Summary for May 11, 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	493.62	228.21	220.97	245.98	7.24
2	Eastern Grid	253.67	59.83	56.96	213.27	2.87
Total		747.29	288.04	277.93	459.25	10.11

NOTE-BHP,KHP,MOT,GEL,JLG & MHP data collected 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:	May 12, 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	0.00	400kV THP - Siliguri Line - I	126.49	+	Unit-I & III under AMP. Unit-V on standby. 400kV THP_SIL Line II & IV on Standby.
		Unit- II	69.76	400kV THP - Siliguri Line - II	0.00	-	
		Unit- III	0.00	400kV THP - Siliguri Line- IV	0.00	-	
		Unit- IV	69.78	400kV THP - Malbase Line - III	118.02	+	
		Unit- V	0.00	400kV Malbase - Siliguri Line	118.21	+	
		Unit- VI	110.36	-	-	-	
		Total	249.90	Error at Station/Auxiliary Consumption/Losses		2.157%	
2	720MW MHP	Unit-I	148.86	400kV MHP - Jigmeling Line - I	0.00	-	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	75.19	400kV MHP - Jigmeling Line - II	184.17	+	
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	0.00	-	
		Unit-IV	145.55	400kV MHP - Jigmeling Line - IV	184.57	+	
		-	-	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	364.01	+	
		-	-	400kV Jigmeling - Alipurduar Line - II	0.00	-	
		-	-	80MVA, 220/132kV ICT - I (HV)	3.70	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	3.74	+	
		-	-	220kV Tsirang - Jigmeling Line	8.84	+	
		-	-	132kV Gelephu - Salakati Line	-6.80	-	
Total	369.60	Error at Station/Auxiliary Consumption/Losses		0.233%			
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Line- I	14.10	+	Unit-I & II on standby.
		Unit- II	0.00	220kV CHP - Birpara Line- II	14.18	+	
		Unit- III	67.00	220kV CHP - Malbase Line- III	98.80	+	
		Unit- IV	68.38	220kV CHP - Semtokha Line- IV	-9.33	-	
		-	-	220kV Malbase - Birpara Line	-53.36	-	
		-	-	66kV CHP - Chumdo Line	12.07	+	
		-	-	66kV CHP - Gedu Line	4.05	+	
		-	-	3x3MVA, 66/11kV TFR	1.00	+	
Total	135.38	Error at Station/Auxiliary Consumption/Losses		0.377%			
4	24MW BHP (U/S)	Unit- I	6.10	220kV BHP - Semtokha Line	39.09	+	
		Unit- II	5.80	66kV BHP - Lobeyasa Line	7.10	+	
		Total	11.90	220kV BHP - Tsirang Line	-14.89	-	
	40MW BHP (L/S)	Unit- I	9.70	5MVA, 66/11kV TFR	0.89	+	
		Unit- II	9.20	30MVA ICT, 220/66kV (HV)	-3.91	-	
Total	18.90	Error at Station/Auxiliary Consumption/Losses		-4.513%			
5	126MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	26.70	+	Unit-I on standby. 220kV DHP_Dagapela Line on standby.
		Unit-II	26.96	220kV DHP - Dagapela Line	0.00	-	
		-	-	220kV Jigmeling - Dagapela Line	1.21	+	
		-	-	5MVA, 220/33kV TFR	0.20	+	
		Total	26.96	Error at Station/Auxiliary Consumption/Losses		0.223%	
6	60MW KHP	Unit- I	15.50	132kV KHP - Nangkhor Line	41.00	+	
		Unit-II	15.50	132kV KHP - Kilikhar Line	20.27	+	
		Unit- III	15.50	5MVA, 132/11kV TFR	0.92	+	
		Unit- IV	15.50	132kV Motanga - Rangia Line	29.08	+	
		Total	62.00	Error at Station/Auxiliary Consumption/Losses		-0.306%	

Note: Generation-Load Summary (MW) for May 12, 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	443.04	214.58	211.22	219.62	3.36
2	Eastern Grid	431.60	54.15	53.48	386.29	0.67
Total		874.64	268.73	264.70	605.91	4.03

Note: Generation-Load Summary for May 12, 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	449.86	206.68	200.45	232.09	6.23
2	Eastern Grid	240.70	54.63	49.07	197.16	5.56
Total		690.56	261.31	249.52	429.25	11.79

NOTE-BHP,KHP,MOT,GEL,JLG & MHP data collected 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.
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