

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	May 24, 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	118.94	400kV THP - Siliguri Line - I	0.00		Unit-IV, V & VI on standby. 400kV THP_SIL Line I & IV on Standby.
		Unit- II	119.95	400kV THP - Siliguri Line - II	157.48	+	
		Unit- III	150.81	400kV THP - Siliguri Line- IV	0.00		
		Unit- IV	0.00	400kV THP - Malbase Line - III	223.97	+	
		Unit- V	0.00	400kV Malbase - Siliguri Line	130.67	+	
		Unit- VI	0.00	-	-	-	
		Total	389.70	Error at Station/Auxiliary Consumption/Losses		2.117%	
2	720MW MHP	Unit-I	130.63	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	130.24	400kV MHP - Jigmeling Line - II	169.12	+	
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	80.11	400kV MHP - Jigmeling Line - IV	169.28	+	
		-	-	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	167.50	+	
		-	-	400kV Jigmeling - Alipurduar Line - II	165.80	+	
		-	-	80MVA, 220/132kV ICT - I (HV)	5.50	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	5.50	+	
		-	-	220kV Tsirang - Jigmeling Line	12.78	+	
		-	-	132kV Gelephu - Salakati Line	-14.97	-	
Total	340.98	Error at Station/Auxiliary Consumption/Losses		0.757%			
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Line- I	28.86	+	Unit-I on standby. 66kV CHP-Watsa section under shutdown.
		Unit- II	55.86	220kV CHP - Birpara Line- II	28.91	+	
		Unit- III	56.55	220kV CHP - Malbase Line- III	46.25	+	
		Unit- IV	55.66	220kV CHP - Semtokha Line- IV	54.79	+	
		-	-	220kV Malbase - Birpara Line	11.35	+	
		-	-	66kV CHP - Chumdo Line	0.00	+	
		-	-	66kV CHP - Gedu Line	6.29	+	
		-	-	3x3MVA, 66/11kV TFR	1.30	+	
Total	168.07	Error at Station/Auxiliary Consumption/Losses		0.994%			
4	24MW BHP (U/S)	Unit- I	0.00	220kV BHP - Semtokha Line	-13.84	-	U/S Unit-I & L/S Unit II on standby.
		Unit- II	4.40	66kV BHP - Lobeyasa Line	24.20	+	
		Total	4.40	220kV BHP - Tsirang Line	1.43	+	
	40MW BHP (L/S)	Unit- I	8.30	5MVA, 66/11kV TFR	0.88	+	
		Unit- II	0.00	30MVA ICT, 220/66kV (HV)	20.71	+	
Total	8.30	Error at Station/Auxiliary Consumption/Losses		0.236%			
5	126MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	14.56	+	Unit-I on standby. 220kV DHP_Dagapela Line on standby.
		Unit-II	14.79	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	1.60	+	
		-	-	5MVA, 220/33kV TFR	0.21	+	
		Total	14.79	Error at Station/Auxiliary Consumption/Losses		0.135%	
6	60MW KHP	Unit- I	16.50	132kV KHP - Nangkhor Line	39.43	+	
		Unit-II	16.50	132kV KHP - Kilikhar Line	25.55	+	
		Unit- III	16.50	5MVA, 132/11kV TFR	0.29	+	
		Unit- IV	16.50	132kV Motanga - Rangia Line	38.63	+	
		Total	66.00	Error at Station/Auxiliary Consumption/Losses		1.106%	

Note: Generation-Load Summary (MW) for May 24, 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	585.26	215.21	206.84	357.27	8.37
2	Eastern Grid	406.98	62.80	59.49	356.96	3.31
Total		992.24	278.01	266.33	714.23	11.68

Note: Generation-Load Summary for May 24, 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	1,511.79	232.56	216.37	1,218.01	16.19
2	Eastern Grid	737.92	66.31	55.67	732.83	10.64
Total		2,249.71	298.87	272.04	1,950.84	26.83

NOTE-BHP & 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 25, 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	118.90	400kV THP - Siliguri Line - I	0.00	+	Unit- IV , V & VI on standby. 400kV THP_SIL Line I & IV on Standby.
		Unit- II	121.45	400kV THP - Siliguri Line - II	174.51	+	
		Unit- III	149.98	400kV THP - Siliguri Line- IV	0.00		
		Unit- IV	0.00	400kV THP - Malbase Line - III	207.38	+	
		Unit- V	0.00	400kV Malbase - Siliguri Line	153.67	+	
		Unit- VI	0.00	-	-	-	
		Total	390.33	Error at Station/Auxiliary Consumption/Losses		2.162%	
2	720MW MHP	Unit-I	130.06	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.
		Unit-II	130.23	400kV MHP - Jigmeling Line - II	196.73	+	
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	135.20	400kV MHP - Jigmeling Line - IV	193.40	+	
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	0.00		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	61.08		
		-	-	400kV Jigmeling - Alipurduar Line - I	163.13	+	
		-	-	400kV Jigmeling - Alipurduar Line - II	162.17		
		-	-	80MVA, 220/132kV ICT - I (HV)	18.06	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	18.08	+	
		-	-	220kV Tsirang - Jigmeling Line	-25.29	-	
		-	-	132kV Gelephu - Salakati Line	13.56	+	
Total	395.49	Error at Station/Auxiliary Consumption/Losses		1.355%			
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Line- I	39.42	+	Unit- I on standby.
		Unit- II	57.10	220kV CHP - Birpara Line- II	39.59	+	
		Unit- III	55.00	220kV CHP - Malbase Line- III	82.02	+	
		Unit- IV	53.21	220kV CHP - Semtokha Line- IV	-3.92	-	
		-	-	220kV Malbase - Birpara Line	1.69	+	
		-	-	66kV CHP - Chumdo Line	0.00	+	
		-	-	66kV CHP - Gedu Line	5.94	+	
		-	-	3x3MVA, 66/11kV TFR	0.70	+	
Total	165.31	Error at Station/Auxiliary Consumption/Losses		0.944%			
4	24MW BHP (U/S)	Unit- I	0.00	220kV BHP - Semtokha Line	34.91	+	U/S Unit-I & L/S Unit-II on standby.
		Unit- II	4.30	66kV BHP - Lobeyasa Line	23.80	+	
		Total	4.30	220kV BHP - Tsirang Line	-45.66	-	
	40MW BHP (L/S)	Unit- I	9.70	5MVA, 66/11kV TFR	0.90	+	
		Unit- II	0.00	30MVA ICT, 220/66kV (HV)	20.45	+	
Total	9.70	Error at Station/Auxiliary Consumption/Losses		0.357%			
5	126MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	24.72	+	Unit-I on standby. 220kV DHP_Dagapela Line on standby.
		Unit-II	24.98	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	1.10	+	
		-	-	5MVA, 220/33kV TFR	0.30	+	
		Total	24.98	Error at Station/Auxiliary Consumption/Losses		-0.160%	
6	60MW KHP	Unit- I	16.24	132kV KHP - Nangkhor Line	39.82	+	
		Unit-II	16.05	132kV KHP - Kilikhar Line	24.25	+	
		Unit- III	16.20	5MVA, 132/11kV TFR	0.30	+	
		Unit- IV	16.50	132kV Motanga - Rangia Line	43.97	+	
		Total	64.99	Error at Station/Auxiliary Consumption/Losses		0.962%	

Note: Generation-Load Summary (MW) for May 25, 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	594.62	211.03	202.12	408.88	8.91
2	Eastern Grid	460.48	52.36	46.38	382.83	5.98
Total		1,055.10	263.39	248.50	791.71	14.90

Note: Generation-Load Summary for May 25, 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	1,489.59	201.69	189.16	1,241.42	12.53
2	Eastern Grid	699.58	46.21	42.56	699.85	3.65
Total		2,189.17	247.90	231.72	1,941.27	16.18

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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