

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	February 25, 2021
Hours:	19:00 Hours

Date	Time	Load(MW)
27-Dec-18	18:18hrs	399.35MW

Sl. No.	Hydropower Plant	Unit	MW	Name of Feeders	Load (MW)	Sign	Remarks
1	1020MW THP	Unit- I	80.63	400kV THP - Siliguri Fdr- I	37.32	+	Unit-III on standby. Unit-IV, V & VI under shutdown. 400kV THP-SIL Fdr II on standby. 400kV THP-SIL Fdr IV under AMP.
		Unit- II	69.58	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	0.00		
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	108.26	+	
		Unit- V	0.00	400kV Malbase - Siliguri	24.00	+	
		Unit- VI	0.00	-	-	-	
		Total	150.21	Error at Station/Auxiliary Consumption/Losses	3.082%		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit- I on standby. Unit-II under maintenance. Unit-III under breakdown. 400kV MHP-JLG Fdr I, II & III on standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	0.00	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	88.99	400kV MHP - Jigmeling Fdr - IV	88.80	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	88.99	Error at Station/Auxiliary Consumption/Losses	0.214%		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	0.00		Unit-I & III under Annual Maintenance 220kV CHP-BIR I on Standby.
		Unit- II	36.19	220kV CHP - Birpara Fdr- II	-12.90	-	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	4.85	+	
		Unit- IV	36.13	220kV CHP - Semtokha Fdr- IV	59.00	+	
		-	-	220kV Malbase - Birpara Fdr.	-24.00	-	
		-	-	66kV CHP - Chumdo Fdr.	15.00	+	
		-	-	66kV CHP - Gedu Fdr.	3.86	+	
		-	-	3x3MVA, 66/11kV TFR	2.00	+	
		Total	72.32	Error at Station/Auxiliary Consumption/Losses	0.705%		
4	24MW BHP (U/S)	Unit- I	5.40	220kV BHP - Semtokha Fdr.	4.30	+	U/S Unit-II under AMP. L/S Unit-I on standby
		Unit- II	0.00	66kV BHP - Lobeysa Fdr.	11.50	+	
	Total	5.40	220kV BHP - Tsirang Fdr.	-0.24	-		
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.86	+	
Unit- II		11.30	30MVA ICT, 220/66kV				
		Total	11.30	Error at Station/Auxiliary Consumption/Losses	1.677%		
5	126MW DHPC	Unit-I	17.65	220kV DHPC - Tsirang Fdr.	17.44	+	Unit-II under AMP
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.	2.30	+	
		-	-	5MVA, 220/33kV TFR			
		Total	17.65	Error at Station/Auxiliary Consumption/Losses	1.190%		
6	60MW KHP	Unit- I	10.10	132kV KHP - Nangkhon Fdr- I	6.00	+	Unit-II on standby. Unit-IV under Annual Maintenance.
		Unit-II	0.00	132kV KHP - Kilikhar Fdr- II	13.50	+	
		Unit- III	10.20	5MVA, 132/11kV TFR	0.41	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-32.20	-	
		-	-	132kV Motanga - Rangia Fdr.	-6.88	-	
		-	-	220kV Tsirang - Jigmeling	9.65	+	
		Total	20.30	Error at Station/Auxiliary Consumption/Losses	1.921%		

Note: Generation-Load Summary for February 25, 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	256.88	222.81	219.48	24.42	3.33
2	Eastern Grid	109.29	69.22	68.64	49.72	0.58
	Total	366.17	292.03	288.12	74.14	3.91

Note: Generation-Load Summary for February 25, 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	340.16	274.52	269.10	24.44	5.42
2	Eastern Grid	98.45	85.79	85.29	53.86	0.50
	Total	438.61	360.31	354.39	78.30	5.92

NOTE- MAL,BHP,KHP,MHP & Motanga 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:	February 26, 2021
Hours:	09:00 Hours

Date	Time	Load(MW)
27-Dec-18	18:18hrs	399.35MW

Sl. No.	Hydropower Plant	Unit	MW	Name of Feeders	Load (MW)	Sign	Remarks
1	1020MW THP	Unit- I	80.00	400kV THP - Siliguri Fdr- I	37.00	+	Unit-III on standby. Unit-IV,V &VI under shutdown. 400kV THP-SIL Fdr II on standby. 400kV Tala-SIL IV under AMP.
		Unit- II	70.00	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	0.00		
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	107.00	+	
		Unit- V	0.00	400kV Malbase - Siliguri	22.00	+	
		Unit- VI	0.00	-	-	-	
		Total	150.00	Error at Station/Auxiliary Consumption/Losses	4.000%		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00	+	Unit I on Standby Unit-II under maintenance Unit-III under breakdown. 400kV MHP-JLG Fdr I,II & III on standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	0.00	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	90.16	400kV MHP - Jigmeling Fdr - IV	90.04		
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	90.16	Error at Station/Auxiliary Consumption/Losses	0.133%		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	0.00		Unit-I & III under AMP. 220kV CHP-BIR I on Standby
		Unit- II	36.32	220kV CHP - Birpara Fdr- II	-5.60	-	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	18.00	+	
		Unit- IV	36.10	220kV CHP - Semtokha Fdr- IV	42.70	+	
		-	-	220kV Malbase - Birpara Fdr.	-22.00	-	
		-	-	66kV CHP - Chumdo Fdr.	11.50	+	
		-	-	66kV CHP - Gedu Fdr.	2.80	+	
		-	-	3x3MVA, 66/11kV TFR	1.43	+	
		Total	72.42	Error at Station/Auxiliary Consumption/Losses	2.196%		
4	24MW BHP (U/S)	Unit- I	5.40	220kV BHP - Semtokha Fdr.	6.80	+	U/S Unit-II under AMP. L/S Unit-I on standby.
		Unit- II	0.00	66kV BHP - Lobeysa Fdr.	11.30	+	
	Total	5.40	220kV BHP - Tsirang Fdr.	-2.42	-		
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.89	+	
Unit- II		11.30	30MVA ICT, 220/66kV				
		Total	11.30	Error at Station/Auxiliary Consumption/Losses	0.778%		
5	126MW DHPC	Unit-I	17.47	220kV DHPC - Tsirang Fdr.	17.25	+	Unit-II under AMP
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.	1.60	+	
		-	-	5MVA, 220/33kV TFR			
		Total	17.47	Error at Station/Auxiliary Consumption/Losses	1.259%		
6	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhor Fdr- I	0.00		Unit-I & III on standby. Unit-IV under Annual Maintenance. 132kV KHP_NKO Line under AMP
		Unit-II	16.27	132kV KHP - Kilihar Fdr- II	15.64	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.37	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-22.60	-	
		-	-	132kV Motanga - Rangia Fdr.	-4.53	-	
		-	-	220kV Tsirang - Jigmeling	10.70	+	
		Total	16.27	Error at Station/Auxiliary Consumption/Losses	1.598%		

Note: Generation-Load summary for February 26, 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	256.59	214.49	208.15	31.40	6.34
2	Eastern Grid	106.43	54.22	53.84	62.91	0.38
	Total	363.02	268.71	261.99	94.31	6.72

Note: Generation-Load Summary for February 26, 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	236.80	272.74	268.00	-57.93	4.74
2	Eastern Grid	99.31	53.37	52.64	67.94	0.73
	Total	336.11	326.10	320.63	10.01	5.47

NOTE: Eastern and Western 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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