

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	February 24, 2020
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	0.00	400kV THP - Siliguri Fdr- I	0.00		Unit-III & IV at standby. Unit- I,II & 400kV Feeder I under AMP. 400kV THP_SILI II Standby
		Unit- II	0.00	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	46.51	+	
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	148.42	+	
		Unit- V	69.00	400kV Malbase - Siliguri	28.08	+	
		Unit- VI	130.50	-	-	-	
		Total	199.50	Error at Station/Auxiliary Consumption/Losses	4.57		
2	720MW MHP	Unit-I	86.90	400kV MHP - Jigmeling Fdr - I	0.00		Unit-II standby and Unit-IV under shutdown.Unit-III under breakdown. 400kV MHP-JLG I, II & III 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	0.00	400kV MHP - Jigmeling Fdr - IV	83.90	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	86.90	Error at Station/Auxiliary Consumption/Losses	3.00		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	0.00	-	Unit-I & III under shutdown. 220kV CHP-Birpara Fdr I standby.
		Unit- II	54.36	220kV CHP - Birpara Fdr- II	-7.82	-	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	19.03	+	
		Unit- IV	53.87	220kV CHP - Semtokha Fdr- IV	75.83	+	
		-	-	220kV Malbase - Birpara Fdr.	-27.47	-	
		-	-	66kV CHP - Chumdo Fdr.	14.97	+	
		-	-	66kV CHP - Gedu Fdr.	2.62	+	
		Total	108.23	Error at Station/Auxiliary Consumption/Losses	1.85		
4	24MW BHP (U/S)	Unit- I	5.10	220kV BHP - Semtokha Fdr.	-22.35	-	U/S Unit-II and LS Unit II under shutdown.
		Unit- II	0.00	66kV BHP - Lobeyasa Fdr.	13.23	+	
		Total	5.10	220kV BHP - Tsirang Fdr.	23.77	+	
	40MW BHP (L/S)	Unit- I	10.58	5MVA, 66/11kV TFR	0.75	+	
		Unit- II	0.00	30MVA ICT, 220/66kV			
Total	10.58	Error at Station/Auxiliary Consumption/Losses	0.28				
5	126MW DHPC	Unit-I	0.00	220kV DHPC - Tsirang Fdr.	15.97	+	Unit I under maintenance
		Unit-II	16.21	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	16.21	Error at Station/Auxiliary Consumption/Losses	0.24		
6	60MW KHP	Unit- I	12.50	132kV KHP - Nangkhon Fdr- I	9.62	+	Unit- III & IV Annual Maintenance
		Unit-II	10.08	132kV KHP - Kilikhar Fdr- II	12.44	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.26	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-10.87	-	
		-	-	132kV Motanga - Rangia Fdr.	-5.43	-	
		-	-	220kV Tsirang - Jigmeling	37.44	+	
		Total	22.58	Error at Station/Auxiliary Consumption/Losses	0.26		

Note: Load summary on February 24, 2020 at 19:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import	Load Balance
1	Western Grid	339.62	262.88	255.94	39.30	6.94
2	Eastern Grid	109.48	79.32	76.06	67.60	3.26
	Total	449.10	342.20	332.00	106.90	10.20

Note: Load Summary on February 24, 2019 at 19:00hrs

Sl. No	Region	19:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	253.06	253.06	308.60
2	Eastern Grid	50.85	50.85	65.91
	National	303.91	303.91	374.51

NOTES: KHP & CHP loads 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 25, 2020
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	0.00	400kV THP - Siliguri Fdr- I	0.00		Unit- III & IV standby. Unit- I & II under shutdown. 400kV THP_SILI-I under AMP 400kV THP-SIL II Standby
		Unit- II	0.00	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	18.87	+	
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	115.62	+	
		Unit- V	69.16	400kV Malbase - Siliguri	1.66	-	
		Unit- VI	69.63	-	-	-	
		Total	138.79	Error at Station/Auxiliary Consumption/Losses	4.30		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit-II standby and Unit-IV and Unit-I under shutdown. 400kV MHP-JLG I, II & III Standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	80.34	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	0.00	400kV MHP - Jigmeling Fdr - IV	80.30	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	80.34	Error at Station/Auxiliary Consumption/Losses	0.04		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	0.00	-	Unit-I & III under shutdown. 220kV CHP-Birpara Fdr I standby.
		Unit- II	31.00	220kV CHP - Birpara Fdr- II	-19.71	-	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	14.78	+	
		Unit- IV	35.00	220kV CHP - Sementokha Fdr- IV	53.40	+	
		-	-	220kV Malbase - Birpara Fdr.	-43.08	-	
		-	-	66kV CHP - Chumdo Fdr.	12.19	+	
		-	-	66kV CHP - Gedu Fdr.	2.39	+	
		Total	66.00	Error at Station/Auxiliary Consumption/Losses	1.60		
4	24MW BHP (U/S)	Unit- I	5.05	220kV BHP - Sementokha Fdr.	-7.62	-	U/S Unit-II and LS Unit II under shutdown.
		Unit- II	0.00	66kV BHP - Lobeysa Fdr.	11.58	+	
		Total	5.05	220kV BHP - Tsirang Fdr.	10.22	+	
	40MW BHP (L/S)	Unit- I	10.14	5MVA, 66/11kV TFR	0.57	+	
		Unit- II	0.00	30MVA ICT, 220/66kV			
Total	10.14	Error at Station/Auxiliary Consumption/Losses	0.44				
5	126MW DHPC	Unit-I	0.00	220kV DHPC - Tsirang Fdr.	16.93	+	Unit I under maintenance
		Unit-II	17.15	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	17.15	Error at Station/Auxiliary Consumption/Losses	0.22		
6	60MW KHP	Unit- I	10.40	132kV KHP - Nangkhor Fdr- I	9.99	+	Unit-III & IV AMP
		Unit-II	10.22	132kV KHP - Kilikhar Fdr- II	9.90	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.28	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-13.95	-	
		-	-	132kV Motanga - Rangia Fdr.	-13.70	-	
		-	-	220kV Tsirang - Jigmeling	25.99	+	
		Total	20.62	Error at Station/Auxiliary Consumption/Losses	0.45		

Note: Load summary on February 25, 2020 at 09:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import	Load Balance
1	Western Grid	237.13	253.40	246.84	-42.26	6.56
2	Eastern Grid	100.96	74.30	73.81	52.65	0.49
	Total	338.09	327.70	320.65	10.39	7.05

Note: Load Summary on February 25, 2019 at 09:00hrs

Sl. No	Region	09:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	223.02	263.92	257.31
2	Eastern Grid	36.92	50.09	66.55
	National	259.94	314.01	323.86

NOTES: KHP & CHP generation 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.
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