

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	January 31, 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	68.31	+	Unit-III & IV at standby. Unit-I and II under shutdown. 400kV THP_SILI-II under shutdown & 400kV THP_SILI-IV standby.
		Unit- II	0.00	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	148.09	+	
		Unit- V	149.40	400kV Malbase - Siliguri	46.07	+	
		Unit- VI	70.50	-	-	-	
		Total	219.90	Error at Station/Auxiliary Consumption/Losses	3.50		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit-I,II & IV standby. 400kV MHP-JLG I & II Standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	90.82	400kV MHP - Jigmeling Fdr - III	43.41	+	
		Unit-IV	0.00	400kV MHP - Jigmeling Fdr - IV	45.80	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	90.82	Error at Station/Auxiliary Consumption/Losses	1.61		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	0.00		Unit-I under shutdown. Unit-IV & 220kV CHP-BIR I standby
		Unit- II	66.40	220kV CHP - Birpara Fdr- II	-12.65	-	
		Unit- III	35.80	220kV CHP - Malbase Fdr- III	26.40	+	
		Unit- IV	0.00	220kV CHP - Semtokha Fdr- IV	64.17	+	
		-	-	220kV Malbase - Birpara Fdr.	-40.15	-	
		-	-	66kV CHP - Chumdo Fdr.	16.16	+	
		-	-	66kV CHP - Gedu Fdr.	4.90	+	
		-	-	3x3MVA, 66/11kV TFR	1.97	+	
Total	102.20	Error at Station/Auxiliary Consumption/Losses	1.25				
4	24MW BHP (U/S)	Unit- I	5.72	220kV BHP - Semtokha Fdr.	1.98	+	U/S Unit-II & L/S Unit-I under maintenace.
		Unit- II	0.00	66kV BHP - Lobeyasa Fdr.	16.28	+	
		Total	5.72	220kV BHP - Tsirang Fdr.	-1.45	-	
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.89	+	
		Unit- II	11.80	30MVA ICT, 220/66kV			
Total	11.80	Error at Station/Auxiliary Consumption/Losses	0.18				
5	126MW DHPC	Unit-I	0.00	220kV DHPC - Tsirang Fdr.	17.98	+	Unit I under maintenance
		Unit-II	18.19	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	18.19	Error at Station/Auxiliary Consumption/Losses	0.21		
6	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhon Fdr- I	3.90	+	Unit-I Standby Unit- III & IV Annual Maintenance
		Unit-II	15.06	132kV KHP - Kilikhar Fdr- II	10.20	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.47	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-25.37	-	
		-	-	132kV Motanga - Rangia Fdr.	-7.91	-	
		-	-	220kV Tsirang - Jigmeling	14.23	+	
		Total	15.06	Error at Station/Auxiliary Consumption/Losses	0.49		

Note: Load summary on January 31, 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	357.81	282.00	277.22	61.58	4.78
2	Eastern Grid	105.88	64.18	62.08	55.93	2.10
	Total	463.69	346.18	339.30	117.51	6.88

Note: Load Summary on January 31, 2019 at 19:00hrs

Sl. No	Region	19:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	280.13	280.13	308.60
2	Eastern Grid	60.96	60.96	65.91
	National	341.09	341.09	374.51

NOTES: Motanga and KHP units data are 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 1, 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	35.45	+	Unit- III & IV at standby. Unit- I & II under shutdown. 400kV THP_SILI-II under shutdown & 400kV THP_SILI-IV standby.
		Unit- II	0.00	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	111.21	+	
		Unit- V	79.15	400kV Malbase - Siliguri	15.46	+	
		Unit- VI	70.49	-	-	-	
		Total	149.64	Error at Station/Auxiliary Consumption/Losses	2.98		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit-I,II & III standby. 400kV MHP-JLG I & II standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	0.00	400kV MHP - Jigmeling Fdr - III	46.50	+	
		Unit-IV	95.90	400kV MHP - Jigmeling Fdr - IV	46.50	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	95.90	Error at Station/Auxiliary Consumption/Losses	2.90		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	0.00		Unit-I under shutdown. Unit IV & 220kV CHP-BIR I standby
		Unit- II	27.52	220kV CHP - Birpara Fdr- II	-15.64	-	
		Unit- III	36.01	220kV CHP - Malbase Fdr- III	18.63	+	
		Unit- IV	0.00	220kV CHP - Sementokha Fdr- IV	42.63	+	
		-	-	220kV Malbase - Birpara Fdr.	-38.95	-	
		-	-	66kV CHP - Chumdo Fdr.	12.36	+	
		-	-	66kV CHP - Gedu Fdr.	3.33	+	
		-	-	3x3MVA, 66/11kV TFR	1.41	+	
Total	63.53	Error at Station/Auxiliary Consumption/Losses	0.81				
4	24MW BHP (U/S)	Unit- I	5.68	220kV BHP - Sementokha Fdr.	9.19	+	U/S Unit-II & L/S Unit-I under maintenance.
		Unit- II	0.00	66kV BHP - Lobeyasa Fdr.	13.74	+	
		Total	5.68	220kV BHP - Tsirang Fdr.	-6.00	-	
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.55	+	
		Unit- II	11.72	30MVA ICT, 220/66kV			
Total	11.72	Error at Station/Auxiliary Consumption/Losses	-0.08				
5	126MW DHPC	Unit-I	0.00	220kV DHPC - Tsirang Fdr.	18.35	+	Unit I under maintenance
		Unit-II	18.54	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	18.54	Error at Station/Auxiliary Consumption/Losses	0.19		
6	60MW KHP	Unit- I	12.38	132kV KHP - Nangkhon Fdr- I	11.06	+	Unit-III & IV Annual Maintenance.
		Unit-II	10.07	132kV KHP - Kilikhar Fdr- II	10.44	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.17	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-16.78	-	
		-	-	132kV Motanga - Rangia Fdr.	-2.11	-	
		-	-	220kV Tsirang - Jigmeling	10.48	+	
		Total	22.45	Error at Station/Auxiliary Consumption/Losses	0.78		

Note: Load summary on February 01, 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	249.11	242.31	238.41	-3.68	3.90
2	Eastern Grid	118.35	54.72	51.04	74.11	3.68
	Total	367.46	297.03	289.45	70.43	7.58

Note: Load Summary on February 01, 2019 at 09:00hrs

Sl. No	Region	09:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	231.43	277.64	285.13
2	Eastern Grid	51.02	58.48	66.55
	National	282.45	336.12	351.68

NOTES: Motanga data were 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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