

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	January 19, 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	94.00	+	Unit- III & V AND 400kV THP_SIL IV standby. Unit-I & II under AMP. 400kV THP_SILI-II under shutdown.
		Unit- II	0.00	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	0.00		
		Unit- IV	93.00	400kV THP - Malbase Fdr- III	159.00	+	
		Unit- V	0.00	400kV Malbase - Siliguri	69.00	+	
		Unit- VI	160.00	-	-	-	
		Total	253.00	Error at Station/Auxiliary Consumption/Losses	0.00		
2	720MW MHP	Unit-I	99.28	400kV MHP - Jigmeling Fdr - I	0.00		Unit-III under maintenance. Unit-II & IV standby. 400kV MHP-JLG I & II under shutdown. 400kV MHP-JLG IV standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	0.00	400kV MHP - Jigmeling Fdr - III	97.28	+	
		Unit-IV	0.00	400kV MHP - Jigmeling Fdr - IV	0.00		
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	99.28	Error at Station/Auxiliary Consumption/Losses	2.00		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	0.00		220kV CHP-BIR I standby Unit-I & II under AMP. Unit III tripped at 18:17Hrs
		Unit- II	0.00	220kV CHP - Birpara Fdr- II	-0.20	-	
		Unit- III	36.71	220kV CHP - Malbase Fdr- III	30.52	+	
		Unit- IV	74.50	220kV CHP - Sementokha Fdr- IV	59.64	+	
		-	-	220kV Malbase - Birpara Fdr.	-28.00	-	
		-	-	66kV CHP - Chumdo Fdr.	15.50	+	
		-	-	66kV CHP - Gedu Fdr.	3.60	+	
		-	-	3x3MVA, 66/11kV TFR	1.94	+	
		Total	111.21	Error at Station/Auxiliary Consumption/Losses	0.21		
4	24MW BHP (U/S)	Unit- I	6.40	220kV BHP - Sementokha Fdr.	4.55	+	U/S Unit-II & L/S Unit I under AMP
		Unit- II	0.00	66kV BHP - Lobeysa Fdr.	16.71	+	
		Total	6.40	220kV BHP - Tsirang Fdr.	-2.29	-	
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.95	+	
		Unit- II	13.00	30MVA ICT, 220/66kV			
Total	13.00	Error at Station/Auxiliary Consumption/Losses	0.52				
5	126MW DHPC	Unit-I	0.00	220kV DHPC - Tsirang Fdr.	19.44	+	Unit I under AMP
		Unit-II	19.66	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	19.66	Error at Station/Auxiliary Consumption/Losses	0.22		
6	60MW KHP	Unit- I	12.36	132kV KHP - Nangkhor Fdr- I	10.22	+	Unit-II & III AMP
		Unit-II	0.00	132kV KHP - Kilikhar Fdr- II	11.63	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.70	+	
		Unit- IV	10.32	132kV Gelephu - Salakati Fdr.	-17.19	-	
		-	-	132kV Motanga - Rangia Fdr.	-1.61	-	
		-	-	220kV Tsirang - Jigmeling	10.28	+	
		Total	22.68	Error at Station/Auxiliary Consumption/Losses	0.13		

Note: Load summary on January 19, 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	403.27	258.19	258.28	134.80	-0.09
2	Eastern Grid	121.96	53.76	51.63	78.48	2.13
	Total	525.23	311.95	309.91	213.28	2.04

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

Sl. No	Region	19:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	267.57	267.57	308.60
2	Eastern Grid	62.88	62.88	65.91
	National	330.45	330.45	374.51

NOTES: Eastern & 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.
- 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:	January 20, 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	49.00	+	Unit- III & V AND 400kV THP_SIL IV standby. Unit-I & II under AMP. 400kV THP_SILI-II under shutdown.
		Unit- II	0.00	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	0.00		
		Unit- IV	90.00	400kV THP - Malbase Fdr- III	116.00	+	
		Unit- V	0.00	400kV Malbase - Siliguri	29.00	+	
		Unit- VI	80.00	-	-	-	
		Total	170.00	Error at Station/Auxiliary Consumption/Losses	5.00		
2	720MW MHP	Unit-I	98.81	400kV MHP - Jigmeling Fdr - I	0.00		Unit-III under maintenance. Unit-II & IV standby. 400kV MHP-JLG I & II under shutdown. 400kV MHP-JLG IV standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	0.00	400kV MHP - Jigmeling Fdr - III	96.81	+	
		Unit-IV	0.00	400kV MHP - Jigmeling Fdr - IV	0.00		
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	98.81	Error at Station/Auxiliary Consumption/Losses	2.00		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	0.00		Unit-I & II under shutdownn. 220kV CHP-BIR I Standby
		Unit- II	0.00	220kV CHP - Birpara Fdr- II	-4.00	-	
		Unit- III	36.00	220kV CHP - Malbase Fdr- III	26.00	+	
		Unit- IV	37.00	220kV CHP - Semtokha Fdr- IV	37.00	+	
		-	-	220kV Malbase - Birpara Fdr.	-36.00	-	
		-	-	66kV CHP - Chumdo Fdr.	12.00	+	
		-	-	66kV CHP - Gedu Fdr.	4.30	+	
		-	-	3x3MVA, 66/11kV TFR	1.70	+	
Total	73.00	Error at Station/Auxiliary Consumption/Losses	-4.00				
4	24MW BHP (U/S)	Unit- I	6.20	220kV BHP - Semtokha Fdr.	14.90	+	U/S Unit-II & L/S Unit I under maintenace.
		Unit- II	0.00	66kV BHP - Lobeyasa Fdr.	15.40	+	
		Total	6.20	220kV BHP - Tsirang Fdr.	-11.47	-	
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.90	+	
		Unit- II	12.30	30MVA ICT, 220/66kV			
Total	12.30	Error at Station/Auxiliary Consumption/Losses	-1.23				
5	126MW DHPC	Unit-I	0.00	220kV DHPC - Tsirang Fdr.	19.95	+	Unit I under shutdown
		Unit-II	20.16	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	20.16	Error at Station/Auxiliary Consumption/Losses	0.21		
6	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhon Fdr- I	12.33	+	Unit-II & III Annual Maintenance. Unit-I Standby
		Unit-II	0.00	132kV KHP - Kilikhar Fdr- II	2.98	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.45	+	
		Unit- IV	16.20	132kV Gelephu - Salakati Fdr.	-12.39	-	
		-	-	132kV Motanga - Rangia Fdr.	-8.90	-	
		-	-	220kV Tsirang - Jigmeling	5.88	+	
		Total	16.20	Error at Station/Auxiliary Consumption/Losses	0.44		

Note: Load summary on January 20, 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	281.66	237.78	237.80	38.00	-0.02
2	Eastern Grid	115.01	45.37	42.93	75.52	2.44
	Total	396.67	283.15	280.73	113.52	2.42

Note: Load Summary on January 20, 2019 at 09:00hrs

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1	Western Grid	267.57	267.57	308.60
2	Eastern Grid	42.45	62.88	65.91
	National	310.02	330.45	374.51

NOTES:Eastern and Western Data Collected from Site

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