

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	March 9, 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 & V at standby. Unit- I, IV& 400kV Feeder I under AMP. 400kV THP_SILI II Standby
		Unit- II	150.90	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	53.68	+	
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	163.53	+	
		Unit- V	0.00	400kV Malbase - Siliguri	27.00	+	
		Unit- VI	71.11	-	-	-	
		Total	222.01	Error at Station/Auxiliary Consumption/Losses	4.80		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit-I & II under shutdown & Unit-IV underbreak down 400kV MHP-JLG I,II & III Standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	0.00	+	
		Unit-III	100.00	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	0.00	400kV MHP - Jigmeling Fdr - IV	98.50	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	100.00	Error at Station/Auxiliary Consumption/Losses	1.50		
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. 220kV CHP-Malbase Fdr III under AMP.
		Unit- II	51.73	220kV CHP - Birpara Fdr- II	3.85	+	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	0.00	+	
		Unit- IV	56.98	220kV CHP - Sementokha Fdr- IV	81.26	+	
		-	-	220kV Malbase - Birpara Fdr.	-59.00	-	
		-	-	66kV CHP - Chumdo Fdr.	16.31	+	
		-	-	66kV CHP - Gedu Fdr.	5.13	+	
		-	-	3x3MVA, 66/11kV TFR	1.83	+	
Total	108.71	Error at Station/Auxiliary Consumption/Losses	0.33				
4	24MW BHP (U/S)	Unit- I	4.95	220kV BHP - Sementokha Fdr.	-17.32	-	U/S Unit-II and LS Unit II under shutdown.
		Unit- II	0.00	66kV BHP - Lobeysa Fdr.	14.18	+	
		Total	4.95	220kV BHP - Tsirang Fdr.	17.63	+	
	40MW BHP (L/S)	Unit- I	10.47	5MVA, 66/11kV TFR	0.77	+	
		Unit- II	0.00	30MVA ICT, 220/66kV			
Total	10.47	Error at Station/Auxiliary Consumption/Losses	0.16				
5	126MW DHPC	Unit-I	17.23	220kV DHPC - Tsirang Fdr.	17.00	+	Unit II under maintenance
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	17.23	Error at Station/Auxiliary Consumption/Losses	0.23		
6	60MW KHP	Unit- I	10.11	132kV KHP - Nangkhon Fdr- I	7.15	+	Unit- III & IV Annual Maintenance
		Unit-II	10.38	132kV KHP - Kilikhar Fdr- II	12.70	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.30	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-15.11	-	
		-	-	132kV Motanga - Rangia Fdr.	-15.35	-	
		-	-	220kV Tsirang - Jigmeling	32.33	+	
		Total	20.49	Error at Station/Auxiliary Consumption/Losses	0.34		

Note: Load summary on March 09, 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	363.37	305.51	299.99	25.53	5.52
2	Eastern Grid	120.49	84.78	82.94	68.04	1.84
	Total	483.86	390.29	382.93	93.57	7.36

Note: Load Summary on March 09, 2019 at 19:00hrs

Sl. No	Region	19:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	280.57	280.57	286.38
2	Eastern Grid	50.18	52.36	62.64
	National	330.75	332.93	349.02

NOTES: KHP,MHP,JLG and Malbase 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:	March 10, 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 & V standby. Unit-I under shutdown. 400kV THP_SILI-I under AMP 400kV THP-SIL II Standby
		Unit- II	60.37	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	23.04	+	
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	103.78	+	
		Unit- V	0.00	400kV Malbase - Siliguri	12.00	+	
		Unit- VI	70.99	-	-	-	
		Total	131.36	Error at Station/Auxiliary Consumption/Losses	4.54		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit-I & II under standby, Unit-IV under breakdown. 400kV MHP-JLG I,II & III Standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	0.00	+	
		Unit-III	96.80	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	0.00	400kV MHP - Jigmeling Fdr - IV	96.00	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	96.80	Error at Station/Auxiliary Consumption/Losses	0.80		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	0.00	+	Unit-I & III under shutdown. 220kV CHP-Birpara Fdr I under standby. 220kV CHP-Malbase Fdr III under AMP.
		Unit- II	31.51	220kV CHP - Birpara Fdr- II	2.30	+	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	0.00	+	
		Unit- IV	32.74	220kV CHP - Sementokha Fdr- IV	43.91	+	
		-	-	220kV Malbase - Birpara Fdr.	-68.00	-	
		-	-	66kV CHP - Chumdo Fdr.	10.57	+	
		-	-	66kV CHP - Gedu Fdr.	4.88	+	
		-	-	3x3MVA, 66/11kV TFR	1.29	+	
Total	64.25	Error at Station/Auxiliary Consumption/Losses	1.30				
4	24MW BHP (U/S)	Unit- I	5.01	220kV BHP - Sementokha Fdr.	0.94	+	U/S Unit-II and LS Unit II under shutdown.
		Unit- II	0.00	66kV BHP - Lobeysa Fdr.	10.50	+	
		Total	5.01	220kV BHP - Tsirang Fdr.	3.48	+	
	40MW BHP (L/S)	Unit- I	10.53	5MVA, 66/11kV TFR	0.53	+	
		Unit- II	0.00	30MVA ICT, 220/66kV			
Total	10.53	Error at Station/Auxiliary Consumption/Losses	0.09				
5	126MW DHPC	Unit-I	17.27	220kV DHPC - Tsirang Fdr.	17.07	+	Unit II under maintenance
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	17.27	Error at Station/Auxiliary Consumption/Losses	0.20		
6	60MW KHP	Unit- I	10.52	132kV KHP - Nangkhon Fdr- I	11.73	+	Unit-II standby & Unit-III & IV AMP
		Unit-II	10.09	132kV KHP - Kilikhar Fdr- II	8.22	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.30	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-11.02	-	
		-	-	132kV Motanga - Rangia Fdr.	-5.66	-	
		-	-	220kV Tsirang - Jigmeling	18.98	+	
		Total	20.61	Error at Station/Auxiliary Consumption/Losses	0.36		

Note: Load summary on March 10, 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	228.42	240.10	233.97	-30.66	6.13
2	Eastern Grid	117.41	57.07	55.91	79.32	1.16
	Total	345.83	297.17	289.88	48.66	7.29

Note: Load Summary on March 10, 2019 at 09:00hrs

Sl. No	Region	09:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	241.03	268.62	286.38
2	Eastern Grid	45.08	62.16	62.64
	National	286.11	330.78	349.02

NOTES: KHP,MHP,JLG and Malbase loads collected from site.

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