

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	March 16, 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-II, IV & V at standby. Unit-I & 400kV Feeder I under AMP. 400kV THP_SILI II Standby
		Unit- II	0.00	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	160.08	400kV THP - Siliguri Fdr- IV	64.71	+	
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	160.96	+	
		Unit- V	0.00	400kV Malbase - Siliguri	50.00	+	
		Unit- VI	70.88	-	-	-	
		Total	230.96	Error at Station/Auxiliary Consumption/Losses	5.29		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit I, III & IV Under Standby 400kV MHP-JLG I,II & III Standby.
		Unit-II	88.32	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	88.26	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	88.32	Error at Station/Auxiliary Consumption/Losses	0.06		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	5.34	+	Unit-I & III under shutdown. 220kV CHP-Malbase Fdr III under AMP.
		Unit- II	41.28	220kV CHP - Birpara Fdr- II	5.50	+	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	0.00	+	
		Unit- IV	59.55	220kV CHP - Sementokha Fdr- IV	65.49	+	
		-	-	220kV Malbase - Birpara Fdr.	-40.00	-	
		-	-	66kV CHP - Chumdo Fdr.	14.69	+	
		-	-	66kV CHP - Gedu Fdr.	5.69	+	
		-	-	3x3MVA, 66/11kV TFR	1.97	+	
		Total	100.83	Error at Station/Auxiliary Consumption/Losses	2.15		
4	24MW BHP (U/S)	Unit- I	4.69	220kV BHP - Sementokha Fdr.	-6.72	-	U/S Unit-II and LS Unit II under shutdown.
		Unit- II	0.00	66kV BHP - Lobeysa Fdr.	13.96	+	
		Total	4.69	220kV BHP - Tsirang Fdr.	6.58	+	
	40MW BHP (L/S)	Unit- I	10.11	5MVA, 66/11kV TFR	0.93	+	
		Unit- II	0.00	30MVA ICT, 220/66kV			
Total	10.11	Error at Station/Auxiliary Consumption/Losses	0.05				
5	126MW DHPC	Unit-I	16.86	220kV DHPC - Tsirang Fdr.	18.47	+	Unit II under maintenance
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	16.86	Error at Station/Auxiliary Consumption/Losses	-1.61		
6	60MW KHP	Unit- I	12.54	132kV KHP - Nangkhon Fdr- I	9.13	+	Unit- III & IV Annual Maintenance
		Unit-II	10.10	132kV KHP - Kilikhar Fdr- II	12.89	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.30	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-22.09	-	
		-	-	132kV Motanga - Rangia Fdr.	-13.21	-	
		-	-	220kV Tsirang - Jigmeling	20.31	+	
		Total	22.64	Error at Station/Auxiliary Consumption/Losses	0.32		

Note: Load summary on March 16, 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	363.45	257.59	251.71	85.55	5.88
2	Eastern Grid	110.96	78.31	77.93	52.96	0.38
	Total	474.41	335.90	329.64	138.51	6.26

Note: Load Summary on March 16, 2019 at 19:00hrs

Sl. No	Region	19:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	263.51	263.51	286.38
2	Eastern Grid	62.64	62.64	62.64
	National	326.15	326.15	349.02

NOTES:KHP & 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 17, 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	0.00	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	69.66	400kV THP - Siliguri Fdr- IV	31.85	+	
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	116.26	+	
		Unit- V	0.00	400kV Malbase - Siliguri	16.00	+	
		Unit- VI	81.65	-	-	-	
		Total	151.31	Error at Station/Auxiliary Consumption/Losses	3.20		
2	720MW MHP	Unit-I	99.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit-II standby, Unit III & IV Under Standby 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	97.40	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	99.00	Error at Station/Auxiliary Consumption/Losses	1.60		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	6.76	+	Unit-I & III under shutdown. 220kV CHP-Malbase Fdr III under AMP.
		Unit- II	32.00	220kV CHP - Birpara Fdr- II	6.70	+	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	0.00	+	
		Unit- IV	32.00	220kV CHP - Sementokha Fdr- IV	32.82	+	
		-	-	220kV Malbase - Birpara Fdr.	-65.00	-	
		-	-	66kV CHP - Chumdo Fdr.	9.01	+	
		-	-	66kV CHP - Gedu Fdr.	5.84	+	
		-	-	3x3MVA, 66/11kV TFR	1.14	+	
Total	64.00	Error at Station/Auxiliary Consumption/Losses	1.73				
4	24MW BHP (U/S)	Unit- I	4.85	220kV BHP - Sementokha Fdr.	9.83	-	U/S Unit-II and LS Unit II under shutdown.
		Unit- II	0.00	66kV BHP - Lobeysa Fdr.	11.04	+	
		Total	4.85	220kV BHP - Tsirang Fdr.	-6.56	-	
	40MW BHP (L/S)	Unit- I	9.99	5MVA, 66/11kV TFR	0.55	+	
		Unit- II	0.00	30MVA ICT, 220/66kV			
Total	9.99	Error at Station/Auxiliary Consumption/Losses	-0.02				
5	126MW DHPC	Unit-I	16.05	220kV DHPC - Tsirang Fdr.	15.85	+	Unit II under maintenance
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	16.05	Error at Station/Auxiliary Consumption/Losses	0.20		
6	60MW KHP	Unit- I	16.50	132kV KHP - Nangkhon Fdr- I	8.63	+	Unit-III & IV AMP
		Unit-II	0.00	132kV KHP - Kilikhar Fdr- II	7.60	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.28	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-20.32	-	
		-	-	132kV Motanga - Rangia Fdr.	-24.05	-	
		-	-	220kV Tsirang - Jigmeling	10.00	+	
		Total	16.50	Error at Station/Auxiliary Consumption/Losses	-0.01		

Note: Load summary on March 17, 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	246.20	239.89	234.78	-3.69	5.11
2	Eastern Grid	115.50	72.47	70.88	53.03	1.59
	Total	361.70	312.36	305.66	49.34	6.70

Note: Load Summary on March 17, 2019 at 09:00hrs

Sl. No	Region	09:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	217.39	262.24	286.38
2	Eastern Grid	44.08	58.61	62.64
	National	261.47	320.85	349.02

NOTES: CHP, KHP & Malbase loads collected from site.

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