

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	March 27, 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	84.87	+	Unit-III & V standby. Unit-I & IV under shutdown. 400kV THP-SIL II & IV Standby
		Unit- II	147.75	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	157.52	+	
		Unit- V	0.00	400kV Malbase - Siliguri	63.65	+	
		Unit- VI	100.31	-	-	-	
		Total	248.06	Error at Station/Auxiliary Consumption/Losses	5.67		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit-I & II under standby. Unit-IV under shutdown. 400kV MHP-JLG I,II & III standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	110.53	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	0.00	400kV MHP - Jigmeling Fdr - IV	108.40	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	110.53	Error at Station/Auxiliary Consumption/Losses	2.13		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	8.36	+	Unit-I & III under shutdown.
		Unit- II	62.47	220kV CHP - Birpara Fdr- II	8.45	+	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	39.52	+	
		Unit- IV	62.81	220kV CHP - Sementokha Fdr- IV	50.77	+	
		-	-	220kV Malbase - Birpara Fdr.	-16.21	-	
		-	-	66kV CHP - Chumdo Fdr.	12.37	+	
		-	-	66kV CHP - Gedu Fdr.	2.88	+	
		-	-	3x3MVA, 66/11kV TFR	1.76	+	
		Total	125.28	Error at Station/Auxiliary Consumption/Losses	1.17		
4	24MW BHP (U/S)	Unit- I	4.94	220kV BHP - Sementokha Fdr.	-2.84	-	U/S Unit-II and LS Unit II under shutdown.
		Unit- II	0.00	66kV BHP - Lobeysha Fdr.	11.44	+	
		Total	4.94	220kV BHP - Tsirang Fdr.	5.91	+	
	40MW BHP (L/S)	Unit- I	10.44	5MVA, 66/11kV TFR	0.75	+	
		Unit- II	0.00	30MVA ICT, 220/66kV			
Total	10.44	Error at Station/Auxiliary Consumption/Losses	0.12				
5	126MW DHPC	Unit-I	17.13	220kV DHPC - Tsirang Fdr.	16.88	+	Unit-II under maintenance
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	17.13	Error at Station/Auxiliary Consumption/Losses	0.25		
6	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhon Fdr- I	16.25	+	Unit-I & IV under AM.
		Unit-II	16.50	132kV KHP - Kilikhar Fdr- II	15.27	+	
		Unit- III	16.50	5MVA, 132/11kV TFR	0.42	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-14.77	-	
		-	-	132kV Motanga - Rangia Fdr.	3.84	+	
		-	-	220kV Tsirang - Jigmeling	18.56	+	
		Total	33.00	Error at Station/Auxiliary Consumption/Losses	1.06		

Note: Load summary on March 27, 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	405.85	238.17	230.96	149.12	7.21
2	Eastern Grid	143.53	64.62	61.43	97.47	3.19
	Total	549.38	302.79	292.39	246.59	10.40

Note: Load Summary on March 27, 2019 at 19:00hrs

Sl. No	Region	19:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	278.97	279.00	286.38
2	Eastern Grid	54.06	54.06	62.64
	National	333.03	333.06	349.02

NOTES:KHP,MHP 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 28, 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	49.49	+	Unit-V standby. Unit-I, III & IV under shutdown. 400kV THP-SIL II & IV Standby
		Unit- II	59.17	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	106.75	+	
		Unit- V	0.00	400kV Malbase - Siliguri	34.14	+	
		Unit- VI	100.25	-	-	-	
		Total	159.42	Error at Station/Auxiliary Consumption/Losses	3.18		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit-I & II Standby. Unit-IV under shutdown. 400kV MHP-JLG I, II & III Standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	196.38	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	0.00	400kV MHP - Jigmeling Fdr - IV	193.65	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	196.38	Error at Station/Auxiliary Consumption/Losses	2.73		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	1.46	-	Unit-I & III under shutdown.
		Unit- II	37.03	220kV CHP - Birpara Fdr- II	1.33	-	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	44.04	+	
		Unit- IV	41.97	220kV CHP - Sementokha Fdr- IV	20.37	+	
		-	-	220kV Malbase - Birpara Fdr.	-31.29	-	
		-	-	66kV CHP - Chumdo Fdr.	7.02	+	
		-	-	66kV CHP - Gedu Fdr.	3.13	+	
		-	-	3x3MVA, 66/11kV TFR	1.09	+	
		Total	79.00	Error at Station/Auxiliary Consumption/Losses	0.56		
4	24MW BHP (U/S)	Unit- I	5.45	220kV BHP - Sementokha Fdr.	11.00	+	U/S Unit-II and LS Unit II under shutdown.
		Unit- II	0.00	66kV BHP - Lobeyasa Fdr.	9.00	+	
		Total	5.45	220kV BHP - Tsirang Fdr.	-3.60	-	
	40MW BHP (L/S)	Unit- I	11.40	5MVA, 66/11kV TFR	0.47	+	
		Unit- II		30MVA ICT, 220/66kV			
Total	11.40	Error at Station/Auxiliary Consumption/Losses	-0.02				
5	126MW DHPC	Unit-I	17.12	220kV DHPC - Tsirang Fdr.	16.93	+	Unit II under maintenance
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	17.12	Error at Station/Auxiliary Consumption/Losses	0.19		
6	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhon Fdr- I	7.66	+	Unit-I & IV AMP.
		Unit-II	0.00	132kV KHP - Kilikhar Fdr- II	7.41	+	
		Unit- III	16.50	5MVA, 132/11kV TFR	0.40	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-11.16	-	
		-	-	132kV Motanga - Rangia Fdr.	-2.21	+	
		-	-	220kV Tsirang - Jigmeling	11.71	+	
		Total	16.50	Error at Station/Auxiliary Consumption/Losses	1.03		

Note: Load summary on March 28, 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	272.39	205.55	201.64	55.13	3.91
2	Eastern Grid	212.88	44.31	40.55	180.28	3.76
	Total	485.27	249.86	242.19	235.41	7.67

Note: Load Summary on March 28, 2019 at 09:00hrs

Sl. No	Region	09:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	264.59	272.00	286.38
2	Eastern Grid	43.00	62.52	62.64
	National	307.59	334.52	349.02

NOTES: KHP, MHP load 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:
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