

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	March 1, 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 & IV at standby. Unit- I,V & 400kV Feeder I under AMP. 400kV THP_SILI II Standby
		Unit- II	58.06	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	55.26	+	
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	157.18	+	
		Unit- V	0.00	400kV Malbase - Siliguri	40.00	+	
		Unit- VI	158.95	-	-	-	
		Total	217.01	Error at Station/Auxiliary Consumption/Losses		4.57	
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit-I,II & IV standby 400kV MHP-JLG I, II & III Standby.
		Unit-II	90.29	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	90.15	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	90.29	Error at Station/Auxiliary Consumption/Losses		0.14	
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.
		Unit- II	53.84	220kV CHP - Birpara Fdr- II	-11.83	-	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	15.25	+	
		Unit- IV	53.55	220kV CHP - Sementokha Fdr- IV	80.94	+	
		-	-	220kV Malbase - Birpara Fdr.	-32.00	-	
		-	-	66kV CHP - Chumdo Fdr.	17.77	+	
		-	-	66kV CHP - Gedu Fdr.	2.31	+	
		-	-	3x3MVA, 66/11kV TFR	2.19	+	
		Total	107.39	Error at Station/Auxiliary Consumption/Losses		0.76	
4	24MW BHP (U/S)	Unit- I	5.22	220kV BHP - Sementokha Fdr.	-14.43	-	U/S Unit-II and LS Unit II under shutdown.
		Unit- II	0.00	66kV BHP - Lobeysa Fdr.	14.36	+	
		Total	5.22	220kV BHP - Tsirang Fdr.	15.63	+	
	40MW BHP (L/S)	Unit- I	11.58	5MVA, 66/11kV TFR	0.82	+	
		Unit- II	0.00	30MVA ICT, 220/66kV			
Total	11.58	Error at Station/Auxiliary Consumption/Losses		0.42			
5	126MW DHPC	Unit-I	19.75	220kV DHPC - Tsirang Fdr.	19.54	+	Unit II under maintenance
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	19.75	Error at Station/Auxiliary Consumption/Losses		0.21	
6	60MW KHP	Unit- I	12.30	132kV KHP - Nangkhon Fdr- I	8.66	+	Unit- III & IV Annual Maintenance
		Unit-II	10.06	132kV KHP - Kilikhar Fdr- II	12.64	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.50	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-12.23	-	
		-	-	132kV Motanga - Rangia Fdr.	-2.43	+	
		-	-	220kV Tsirang - Jigmeling	32.87	+	
		Total	22.36	Error at Station/Auxiliary Consumption/Losses		0.56	

Note: Load summary on March 01, 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	360.95	276.65	270.69	51.43	5.96
2	Eastern Grid	112.65	70.03	69.33	75.49	0.70
	Total	473.60	346.68	340.02	126.92	6.66

Note: Load Summary on March 01, 2019 at 19:00hrs

Sl. No	Region	19:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	286.38	0.00	286.38
2	Eastern Grid	57.60	57.60	62.64
	National	343.98	57.60	349.02

NOTES: KHP,MHP,Malbase & JLG 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 2, 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	60.72	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	18.71	+	
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	109.57	+	
		Unit- V	0.00	400kV Malbase - Siliguri	3.00	+	
		Unit- VI	71.10	-	-	-	
		Total	131.82	Error at Station/Auxiliary Consumption/Losses	3.54		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit-I & IV under standby, Unit III under breakdown 400kV MHP-JLG I, II & III Standby.
		Unit-II	80.22	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	79.64	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	80.22	Error at Station/Auxiliary Consumption/Losses	0.58		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	0.00	-	Unit-I & III under shutdown.
		Unit- II	38.39	220kV CHP - Birpara Fdr- II	-15.15	-	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	28.48	+	
		Unit- IV	34.25	220kV CHP - Sementokha Fdr- IV	43.90	+	
		-	-	220kV Malbase - Birpara Fdr.	-46.00	-	
		-	-	66kV CHP - Chumdo Fdr.	11.62	+	
		-	-	66kV CHP - Gedu Fdr.	2.94	+	
		-	-	3x3MVA, 66/11kV TFR	1.04	+	
Total	72.64	Error at Station/Auxiliary Consumption/Losses	-0.19				
4	24MW BHP (U/S)	Unit- I	5.43	220kV BHP - Sementokha Fdr.	2.84	+	U/S Unit-II and LS Unit II under shutdown.
		Unit- II	0.00	66kV BHP - Lobeysa Fdr.	11.67	+	
		Total	5.43	220kV BHP - Tsirang Fdr.	1.98	-	
	40MW BHP (L/S)	Unit- I	11.63	5MVA, 66/11kV TFR	0.42	+	
		Unit- II	0.00	30MVA ICT, 220/66kV			
Total	11.63	Error at Station/Auxiliary Consumption/Losses	0.15				
5	126MW DHPC	Unit-I	20.23	220kV DHPC - Tsirang Fdr.	20.01	+	Unit II under maintenance
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	20.23	Error at Station/Auxiliary Consumption/Losses	0.22		
6	60MW KHP	Unit- I	10.57	132kV KHP - Nangkhon Fdr- I	10.37	+	Unit-III & IV AMP
		Unit-II	10.15	132kV KHP - Kilikhar Fdr- II	9.19	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.24	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-10.80	-	
		-	-	132kV Motanga - Rangia Fdr.	4.96	+	
		-	-	220kV Tsirang - Jigmeling	20.30	+	
		Total	20.72	Error at Station/Auxiliary Consumption/Losses	0.92		

Note: Load summary on March 02, 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	241.75	260.89	257.17	-39.44	3.72
2	Eastern Grid	100.94	47.44	45.94	73.80	1.50
	Total	342.69	308.33	303.11	34.36	5.22

Note: Load Summary on March 02, 2019 at 09:00hrs

Sl. No	Region	09:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	247.25	266.51	286.38
2	Eastern Grid	28.92	56.66	62.64
	National	276.17	323.17	349.02

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

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