

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	November 21, 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-IV & 400kV THP-SIL Fdr I under Standby Unit- I,II,400kV Tala-Malbase & ICT under Shutdown.
		Unit- II	0.00	400kV THP - Siliguri Fdr- II	154.95	+	
		Unit- III	99.29	400kV THP - Siliguri Fdr- IV	149.41	+	
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	0.00		
		Unit- V	89.54	400kV Malbase - Siliguri	0.00		
		Unit- VI	120.10	-	-	-	
		Total	308.93	Error at Station/Auxiliary Consumption/Losses	1.479%		
2	720MW MHP	Unit-I	174.61	400kV MHP - Jigmeling Fdr - I	0.00		Unit-II on Standby. Unit-III under AMP(22/09/20-30/11/2020). Unit IV under MTC 400kV MHP-Jigmeling Fdr I under shutdown. 400kV MHP-Jigmeling Fdr II under Breakdown.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	0.00	400kV MHP - Jigmeling Fdr - III	87.11	+	
		Unit-IV	0.00	400kV MHP - Jigmeling Fdr - IV	86.41	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	174.61	Error at Station/Auxiliary Consumption/Losses	0.624%		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	10.27	+	Unit II under Annual Maintenance. Unit-I standby.
		Unit- II	0.00	220kV CHP - Birpara Fdr- II	10.60	+	
		Unit- III	81.50	220kV CHP - Malbase Fdr- III	76.60	+	
		Unit- IV	74.02	220kV CHP - Semtokha Fdr- IV	37.49	+	
		-	-	220kV Malbase - Birpara Fdr.	-42.70	-	
		-	-	66kV CHP - Chumdo Fdr.	14.46	+	
		-	-	66kV CHP - Gedu Fdr.	3.94	+	
		Total	155.52	Error at Station/Auxiliary Consumption/Losses	0.296%		
4	24MW BHP (U/S)	Unit- I	5.60	220kV BHP - Semtokha Fdr.	23.37	+	
		Unit- II	5.60	66kV BHP - Lobeysa Fdr.	16.37	+	
		Total	11.20	220kV BHP - Tsirang Fdr.	-5.38	-	
	40MW BHP (L/S)	Unit- I	12.13	5MVA, 66/11kV TFR	0.90	+	
		Unit- II	11.60	30MVA ICT, 220/66kV			
		Total	23.73	Error at Station/Auxiliary Consumption/Losses	-0.945%		
5	126MW DHPC	Unit-I	0.00	220kV DHPC - Tsirang Fdr.	39.49	+	Unit I Standby
		Unit-II	39.74	220kV Jigmeling - Dagapela Fdr.	2.35	+	
		-	-	5MVA, 220/33kV TFR			
		Total	39.74	Error at Station/Auxiliary Consumption/Losses	0.629%		
6	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhon Fdr- I	18.24	+	Unit I under Annual Maintenance.
		Unit-II	11.72	132kV KHP - Kilihar Fdr- II	15.20	+	
		Unit- III	11.72	5MVA, 132/11kV TFR	0.55	+	
		Unit- IV	11.78	132kV Gelephu - Salakati Fdr.	-8.20	-	
		-	-	132kV Motanga - Rangia Fdr.	24.59	+	
		-	-	220kV Tsirang - Jigmeling	31.40	+	
		Total	35.22	Error at Station/Auxiliary Consumption/Losses	3.492%		

Note: Generation-Load Summary for November 21, 2020 at 19:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Load Balance (MW)
1	Western Grid	539.12	225.19	222.59	282.53	2.60
2	Eastern Grid	209.83	51.32	49.00	189.91	2.32
	Total	748.95	276.51	271.59	472.44	4.92

Note: Generation-Load Summary for November 21, 2019 at 19:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Load Balance (MW)
1	Western Grid	439.22	257.24	251.65	159.48	5.59
2	Eastern Grid	208.56	57.88	53.90	173.18	3.98
	Total	647.78	315.12	305.55	332.66	9.57

NOTE:All Eastern , MAL and DHP 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:	November 22, 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-IV & 400kV THP-SIL Fdr I under Standby Unit- I,II,400kV Tala-Malbase & ICT under Shutdown.
		Unit- II	0.00	400kV THP - Siliguri Fdr- II	163.44	+	
		Unit- III	98.96	400kV THP - Siliguri Fdr- IV	158.47	+	
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	0.00		
		Unit- V	90.09	400kV Malbase - Siliguri	0.00		
		Unit- VI	139.17	-	-	-	
		Total	328.22	Error at Station/Auxiliary Consumption/Losses	1.922%		
2	720MW MHP	Unit-I	186.70	400kV MHP - Jigmeling Fdr - I	0.00		Unit-III under AMP (22/09/20-30/11/2020).Unit-II & Unit-IV under standby. 400kV MHP-JLG Fdr II under Breakdown 400kV MHP-JLG Fdr I & 400kV MHP-JLG Fdr III under shutdown.
		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	185.71	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	186.70	Error at Station/Auxiliary Consumption/Losses	0.530%		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	21.56	+	Unit I on Standby. Unit II under Annual Maintenance
		Unit- II	0.00	220kV CHP - Birpara Fdr- II	21.60	+	
		Unit- III	81.84	220kV CHP - Malbase Fdr- III	91.31	+	
		Unit- IV	77.15	220kV CHP - Semtokha Fdr- IV	10.86	+	
		-	-	220kV Malbase - Birpara Fdr.	-35.00	-	
		-	-	66kV CHP - Chumdo Fdr.	6.24	+	
		-	-	66kV CHP - Gedu Fdr.	5.12	+	
		Total	158.99	Error at Station/Auxiliary Consumption/Losses	0.660%		
4	24MW BHP (U/S)	Unit- I	5.00	220kV BHP - Semtokha Fdr.	25.70	+	
		Unit- II	6.30	66kV BHP - Lobeysa Fdr.	12.00	+	
		Total	11.30	220kV BHP - Tsirang Fdr.	-4.14	-	
	40MW BHP (L/S)	Unit- I	11.80	5MVA, 66/11kV TFR	0.90	+	
		Unit- II	11.50	30MVA ICT, 220/66kV			
		Total	23.30	Error at Station/Auxiliary Consumption/Losses	0.601%		
5	126MW DHPC	Unit-I	0.00	220kV DHPC - Tsirang Fdr.	39.99	+	Unit-I Standby
		Unit-II	40.22	220kV Jigmeling - Dagapela Fdr.	1.46	+	
		-	-	5MVA, 220/33kV TFR			
		Total	40.22	Error at Station/Auxiliary Consumption/Losses	0.572%		
6	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhon Fdr- I	15.13	+	Unit I under Annual Maintenance Unit-II standby
		Unit-II	0.00	132kV KHP - Kilikhar Fdr- II	11.52	+	
		Unit- III	14.16	5MVA, 132/11kV TFR	0.38	+	
		Unit- IV	14.14	132kV Gelephu - Salakati Fdr.	4.20	+	
		-	-	132kV Motanga - Rangia Fdr.	21.24	+	
		-	-	220kV Tsirang - Jigmeling	33.95	+	
		Total	28.30	Error at Station/Auxiliary Consumption/Losses	4.488%		

Note: Generation-Load summary for November 22, 2020 at 09:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Load Balance (MW)
1	Western Grid	562.03	198.01	191.74	330.07	6.27
2	Eastern Grid	215.00	37.80	35.54	211.15	2.26
	Total	777.03	235.81	227.28	541.22	8.53

Note: Generation-Load Summary for November 22, 2019 at 09:00hrs

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Load Balance (MW)
1	Western Grid	484.93	260.17	245.04	212.46	15.13
2	Eastern Grid	209.36	43.47	38.44	178.19	5.03
	Total	694.29	303.64	283.48	390.65	20.16

NOTES: EASTERN LOADS, BHP, MAL & DHP LOADS COLLECTED FRC

- 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.