

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	December 12, 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	108.50	400kV THP - Siliguri Fdr- I	0.00		Unit-II under shutdown. Unit-IV & V on standby. 400kV THP-SIL Fdr I under shutdown. 400kV THP-SIL Fdr IV on Standby.
		Unit- II	0.00	400kV THP - Siliguri Fdr- II	94.00	+	
		Unit- III	69.90	400kV THP - Siliguri Fdr- IV	0.00		
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	148.00	+	
		Unit- V	0.00	400kV Malbase - Siliguri	76.00	+	
		Unit- VI	70.50	-	-	-	
		Total	248.90	Error at Station/Auxiliary Consumption/Losses	2.772%		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit-I on standby. Unit-II under shutdown. Unit-III under breakdown. 400kV MHP-JLG Fdr I & III on standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	72.23	+	
		Unit-III	0.00	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	145.59	400kV MHP - Jigmeling Fdr - IV	72.39	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	145.59	Error at Station/Auxiliary Consumption/Losses	0.666%		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	7.40	+	Unit I & II under Annual Maintenance.
		Unit- II	0.00	220kV CHP - Birpara Fdr- II	7.30	+	
		Unit- III	65.50	220kV CHP - Malbase Fdr- III	40.50	+	
		Unit- IV	61.00	220kV CHP - Semtokha Fdr- IV	49.10	+	
		-	-	220kV Malbase - Birpara Fdr.	-15.00	-	
		-	-	66kV CHP - Chumdo Fdr.	14.60	+	
		-	-	66kV CHP - Gedu Fdr.	3.90	+	
		-	-	3x3MVA, 66/11kV TFR	2.01	+	
		Total	126.50	Error at Station/Auxiliary Consumption/Losses	1.336%		
4	24MW BHP (U/S)	Unit- I	0.00	220kV BHP - Semtokha Fdr.	12.60	+	U/S Unit-I & L/S Unit-I under AMP.
		Unit- II	9.30	66kV BHP - Lobeysa Fdr.	16.60	+	
	Total	9.30	220kV BHP - Tsirang Fdr.	-1.61	-		
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.89	+	
Unit- II		18.70	30MVA ICT, 220/66kV				
		Total	18.70	Error at Station/Auxiliary Consumption/Losses	-1.714%		
5	126MW DHPC	Unit-I	0.00	220kV DHPC - Tsirang Fdr.	30.57	+	Unit-I on standby.
		Unit-II	30.80	220kV Jigmeling - Dagapela Fdr.	2.30	+	
		-	-	5MVA, 220/33kV TFR			
		Total	30.80	Error at Station/Auxiliary Consumption/Losses	0.747%		
6	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhon Fdr- I	10.95	+	Unit-I under Annual Maintenance. Unit-II on Standby.
		Unit-II	0.00	132kV KHP - Kilikhar Fdr- II	15.00	+	
		Unit- III	13.48	5MVA, 132/11kV TFR	0.46	+	
		Unit- IV	13.50	132kV Gelephu - Salakati Fdr.	-20.40	-	
		-	-	132kV Motanga - Rangia Fdr.	8.57	+	
		-	-	220kV Tsirang - Jigmeling	25.06	+	
		Total	26.98	Error at Station/Auxiliary Consumption/Losses	2.105%		

Note: Generation-Load Summary for December 12, 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	434.20	239.44	233.40	169.70	6.04
2	Eastern Grid	172.57	64.84	63.30	132.79	1.54
	Total	606.77	304.28	296.70	302.49	7.58

Note: Generation-Load Summary for December 12, 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	401.26	283.78	275.89	100.35	7.89
2	Eastern Grid	196.29	68.18	65.73	145.24	2.45
	Total	597.55	351.96	341.62	245.59	10.34

NOTE- All datas 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:	December 13, 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-I & II under shutdown. Unit-IV & V on standby. 400kV THP-SIL Fdr I under shutdown. 400kV THP-SIL Fdr IV on Standby.
		Unit- II	0.00	400kV THP - Siliguri Fdr- II	98.00	+	
		Unit- III	120.00	400kV THP - Siliguri Fdr- IV	0.00		
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	145.00	+	
		Unit- V	0.00	400kV Malbase - Siliguri	80.00	+	
		Unit- VI	130.00	-	-	-	
		Total	250.00	Error at Station/Auxiliary Consumption/Losses	2.800%		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit-I on standby. Unit-II under shutdown. Unit-III under breakdown. 400kV MHP-JLG Fdr I & III on standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	74.56	+	
		Unit-III	0.00	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	150.43	400kV MHP - Jigmeling Fdr - IV	74.61	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	150.43	Error at Station/Auxiliary Consumption/Losses	0.838%		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	15.00	+	Unit-I & II under Annual Maintenance.
		Unit- II	0.00	220kV CHP - Birpara Fdr- II	15.00	+	
		Unit- III	65.78	220kV CHP - Malbase Fdr- III	54.00	+	
		Unit- IV	61.40	220kV CHP - Semtokha Fdr- IV	25.00	+	
		-	-	220kV Malbase - Birpara Fdr.	-17.00	-	
		-	-	66kV CHP - Chumdo Fdr.	10.50	+	
		-	-	66kV CHP - Gedu Fdr.	4.00	+	
		-	-	3x3MVA, 66/11kV TFR	1.41	+	
		Total	127.18	Error at Station/Auxiliary Consumption/Losses	1.785%		
4	24MW BHP (U/S)	Unit- I	0.00	220kV BHP - Semtokha Fdr.	18.80	+	U/S Unit-I & L/S Unit-I under AMP.
		Unit- II	9.30	66kV BHP - Lobeysa Fdr.	12.30	+	
		Total	9.30	220kV BHP - Tsirang Fdr.	-4.66	-	
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.90	+	
		Unit- II	18.60	30MVA ICT, 220/66kV			
		Total	18.60	Error at Station/Auxiliary Consumption/Losses	2.007%		
5	126MW DHPC	Unit-I	0.00	220kV DHPC - Tsirang Fdr.	30.46	+	Unit-I on standby.
		Unit-II	30.68	220kV Jigmeling - Dagapela Fdr.	1.60	+	
		-	-	5MVA, 220/33kV TFR			
		Total	30.68	Error at Station/Auxiliary Consumption/Losses	0.717%		
6	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhon Fdr- I	11.34	+	Unit-I under Annual Maintenance. Unit-II on Standby.
		Unit-II	0.00	132kV KHP - Kilihar Fdr- II	11.81	+	
		Unit- III	12.09	5MVA, 132/11kV TFR	0.25	+	
		Unit- IV	12.07	132kV Gelephu - Salakati Fdr.	-13.10	-	
		-	-	132kV Motanga - Rangia Fdr.	4.37	+	
		-	-	220kV Tsirang - Jigmeling	20.70	+	
		Total	24.16	Error at Station/Auxiliary Consumption/Losses	3.154%		

Note: Generation-Load summary for December 13, 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	435.76	224.06	215.61	191.00	8.45
2	Eastern Grid	174.59	54.85	52.83	140.44	2.02
	Total	610.35	278.91	268.44	331.44	10.47

Note: Generation-Load Summary for December 13, 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	365.74	262.33	254.13	95.41	8.20
2	Eastern Grid	165.27	54.35	53.40	118.92	0.95
	Total	531.01	316.68	307.53	214.33	9.15

NOTE: All Data collected from site.

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 - 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.
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