

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	March 16, 2021
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	118.67	400kV THP - Siliguri Fdr- I	0.00		Unit-III on standby. Unit-IV, V & VI under shutdown. 400kV THP-SIL Fdr I on standby. 400kV THP-SIL Fdr IV under AMP.
		Unit- II	120.01	400kV THP - Siliguri Fdr- II	80.47	+	
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	0.00		
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	153.54	+	
		Unit- V	0.00	400kV Malbase - Siliguri	57.55	+	
		Unit- VI	0.00	-	-	-	
		Total	238.68	Error at Station/Auxiliary Consumption/Losses	1.957%		
2	720MW MHP	Unit-I	130.32	400kV MHP - Jigmeling Fdr - I	0.00		Unit-II under maintenance. Unit-III under breakdown. Unit- IV on standby. 400kV MHP-JLG Fdr I ,II & III on 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	130.18	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	130.32	Error at Station/Auxiliary Consumption/Losses	0.107%		
3	336MW CHP	Unit- I	58.54	220kV CHP - Birpara Fdr- I	0.00		Unit-III & IV under AMP. 220kV CHP-BIR I under AMP.
		Unit- II	57.65	220kV CHP - Birpara Fdr- II	4.57	-	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	26.63	+	
		Unit- IV	0.00	220kV CHP - Semtokha Fdr- IV	59.18	+	
		-	-	220kV Malbase - Birpara Fdr.	-13.39	-	
		-	-	66kV CHP - Chumdo Fdr.	19.80	+	
		-	-	66kV CHP - Gedu Fdr.	2.84	+	
		-	-	3x3MVA, 66/11kV TFR	1.80	+	
		Total	116.19	Error at Station/Auxiliary Consumption/Losses	1.179%		
4	24MW BHP (U/S)	Unit- I	0.00	220kV BHP - Semtokha Fdr.	-6.91	-	U/S Unit-I standby. L/S Unit-I standby
		Unit- II	5.10	66kV BHP - Lobeysa Fdr.	12.09	+	
		Total	5.10	220kV BHP - Tsirang Fdr.	9.56	+	
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	1.10	+	
		Unit- II	10.96	30MVA ICT, 220/66kV			
		Total	10.96	Error at Station/Auxiliary Consumption/Losses	1.370%		
5	126MW DHPC	Unit-I	18.38	220kV DHPC - Tsirang Fdr.	18.16	+	Unit-II AMP
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.	2.30	+	
		-	-	5MVA, 220/33kV TFR			
		Total	18.38	Error at Station/Auxiliary Consumption/Losses	1.197%		
6	60MW KHP	Unit- I	12.50	132kV KHP - Nangkhon Fdr- I	7.48	+	Unit-III under AMP. Unit- IV on standby.
		Unit-II	12.51	132kV KHP - Kilikhar Fdr- II	16.63	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.55	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-33.83	-	
		-	-	132kV Motanga - Rangia Fdr.	10.77	-	
		-	-	220kV Tsirang - Jigmeling	20.54	+	
		Total	25.01	Error at Station/Auxiliary Consumption/Losses	1.403%		

Note: Generation-Load Summary for March 16, 2021 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	389.31	239.57	235.39	129.20	4.18
2	Eastern Grid	155.33	68.75	68.26	107.12	0.49
	Total	544.64	308.32	303.65	236.32	4.67

Note: Generation-Load Summary for 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 (MW)	Load Balance (MW)
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- KHP, MHP & Motanga 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:	March 17, 2021
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	119.00	400kV THP - Siliguri Fdr- I	0.00		Unit-III on standby. Unit-IV,V &VI under shutdown. 400kV THP-SIL Fdr I on standby. 400kV Tala-SIL IV under AMP.
		Unit- II	69.80	400kV THP - Siliguri Fdr- II	55.28	+	
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	0.00		
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	129.72	+	
		Unit- V	0.00	400kV Malbase - Siliguri	33.86	+	
		Unit- VI	0.00	-	-	-	
		Total	188.80	Error at Station/Auxiliary Consumption/Losses	2.013%		
2	720MW MHP	Unit-I	134.82	400kV MHP - Jigmeling Fdr - I	0.00		Unit-II under maintenance. Unit-III under breakdown. Unit IV on Standby 400kV MHP-JLG Fdr I, II & III on 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	134.79	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		Total	134.82	Error at Station/Auxiliary Consumption/Losses	0.022%		
3	336MW CHP	Unit- I	46.31	220kV CHP - Birpara Fdr- I	0.00		Total Shutdown of CHP Units. Unit-III & IV under AMP 220kV CHP-BIR I on standby.
		Unit- II	33.53	220kV CHP - Birpara Fdr- II	-6.09	-	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	30.12	+	
		Unit- IV	0.00	220kV CHP - Semtokha Fdr- IV	35.65	+	
		-	-	220kV Malbase - Birpara Fdr.	-32.50	-	
		-	-	66kV CHP - Chumdo Fdr.	13.28	+	
		-	-	66kV CHP - Gedu Fdr.	2.93	+	
		-	-	3x3MVA, 66/11kV TFR	1.10	+	
		Total	79.84	Error at Station/Auxiliary Consumption/Losses	3.570%		
4	24MW BHP (U/S)	Unit- I	0.00	220kV BHP - Semtokha Fdr.	3.23	+	U/S Unit-I on standby. L/S Unit-I on standby.
		Unit- II	5.07	66kV BHP - Lobeysa Fdr.	9.86	+	
	Total	5.07	220kV BHP - Tsirang Fdr.	2.50	-		
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.30	+	
Unit- II		10.96	30MVA ICT, 220/66kV				
		Total	10.96	Error at Station/Auxiliary Consumption/Losses	0.873%		
5	126MW DHPC	Unit-I	17.65	220kV DHPC - Tsirang Fdr.	17.45	+	Unit-II under AMP..
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.	1.20	+	
		-	-	5MVA, 220/33kV TFR			
		Total	17.65	Error at Station/Auxiliary Consumption/Losses	1.133%		
6	60MW KHP	Unit- I	12.05	132kV KHP - Nangkhon Fdr- I	10.20	+	Unit III under AMP Unit-IV on standby
		Unit-II	12.09	132kV KHP - Kilikhar Fdr- II	13.10	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.27	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-27.39	-	
		-	-	132kV Motanga - Rangia Fdr.	12.21	+	
		-	-	220kV Tsirang - Jigmeling	18.45	+	
		Total	24.14	Error at Station/Auxiliary Consumption/Losses	2.361%		

Note: Generation-Load summary for March 17, 2021 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	302.32	233.32	227.53	50.55	5.79
2	Eastern Grid	158.96	57.80	57.20	119.61	0.60
	Total	461.28	291.12	284.73	170.16	6.39

Note: Generation-Load Summary for 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 (MW)	Load Balance (MW)
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: KHP,MHP & Motanga 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.
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