

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	April 19, 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	138.53	400kV THP - Siliguri Fdr- I	104.46	+	Unit- II,IV & V standby. 400kV THP-SIL II standby
		Unit- II	0.00	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	90.00	400kV THP - Siliguri Fdr- IV	100.03	+	
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	158.10	+	
		Unit- V	0.00	400kV Malbase - Siliguri	86.80	+	
		Unit- VI	140.08	-	-	-	
		Total	368.61	Error at Station/Auxiliary Consumption/Losses	6.02		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	132.18	+	Unit- IV Standby & Unit I AMP(11 to 30.4.2020). 400kV MHP-JLG II & III Standby.
		Unit-II	140.00	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	125.00	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	0.00	400kV MHP - Jigmeling Fdr - IV	132.19	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)	0.00	+	
		Total	265.00	Error at Station/Auxiliary Consumption/Losses	0.63		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	69.62	+	Unit-I under shutdown till 30th April and Unit III standby. 220kV CHP-Mal under shutdown till 25.4.2020.
		Unit- II	89.28	220kV CHP - Birpara Fdr- II	69.56	+	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	0.00		
		Unit- IV	91.31	220kV CHP - Sementokha Fdr- IV	19.06	+	
		-	-	220kV Malbase - Birpara Fdr.	-67.85	-	
		-	-	66kV CHP - Chumdo Fdr.	9.11	+	
		-	-	66kV CHP - Gedu Fdr.	10.10	+	
		-	-	3x3MVA, 66/11kV TFR	1.65	+	
		Total	180.59	Error at Station/Auxiliary Consumption/Losses	1.49		
4	24MW BHP (U/S)	Unit- I	0.00	220kV BHP - Sementokha Fdr.	26.40	+	U/S Unit-I under shutdown(15.4.2020-15.5.2020) & L/S Unit I standby
		Unit- II	5.83	66kV BHP - Lobeysa Fdr.	10.40	+	
		Total	5.83	220kV BHP - Tsirang Fdr.	-18.10	-	
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.90	+	
		Unit- II	13.87	30MVA ICT, 220/66kV			
Total	13.87	Error at Station/Auxiliary Consumption/Losses	0.10				
5	126MW DHPC	Unit-I	22.20	220kV DHPC - Tsirang Fdr.	21.99	+	Unit-II Standby
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	22.20	Error at Station/Auxiliary Consumption/Losses	0.21		
6	60MW KHP	Unit- I	15.02	132kV KHP - Nangkhon Fdr- I	45.21	+	220kV JLG- TSI line under breakdown.
		Unit-II	13.07	132kV KHP - Kilikhar Fdr- II	8.70	+	
		Unit- III	14.14	5MVA, 132/11kV TFR	0.50	+	
		Unit- IV	14.05	132kV Gelephu - Salakati Fdr.	-16.85	-	
		-	-	132kV Motanga - Rangia Fdr.	15.08	+	
		-	-	220kV Tsirang - Jigmeling	0.00		
		Total	56.28	Error at Station/Auxiliary Consumption/Losses	1.87		

Note: Load summary on April 19, 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	591.10	228.48	220.66	362.62	7.82
2	Eastern Grid	321.28	58.68	56.18	262.60	2.50
	Total	912.38	287.16	276.84	625.22	10.32

Note: Load Summary on April 19, 2019 at 19:00hrs

Sl. No	Region	19:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	252.55	252.55	286.38
2	Eastern Grid	65.11	65.11	62.64
	National	317.66	317.66	349.02

NOTES:KHP & TSI 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:	April 20, 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	138.46	400kV THP - Siliguri Fdr- I	96.08	+	Unit- II,IV & V standby. 400kV THP-SIL II standby.
		Unit- II	0.00	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	89.87	400kV THP - Siliguri Fdr- IV	91.98	+	
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	134.41	+	
		Unit- V	0.00	400kV Malbase - Siliguri	82.78	+	
		Unit- VI	100.86	-	-	-	
		Total	329.19	Error at Station/Auxiliary Consumption/Losses	6.72		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	122.00	+	Unit-IV Standby & Unit I AMP(11 to 30.4.2020). 400kV MHP-JLG II & III Standby.
		Unit-II	118.85	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	120.36	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	0.00	400kV MHP - Jigmeling Fdr - IV	118.00	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)	0.00		
		Total	239.21	Error at Station/Auxiliary Consumption/Losses	-0.79		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	66.65	+	Unit-I under shutdown till 30th April & Unit III under standby. 220kV CHP-MAL under shutdown till 25.4.2020.
		Unit- II	78.83	220kV CHP - Birpara Fdr- II	66.44	+	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	0.00		
		Unit- IV	77.02	220kV CHP - Semtokha Fdr- IV	4.83	+	
		-	-	220kV Malbase - Birpara Fdr.	-78.91	-	
		-	-	66kV CHP - Chumdo Fdr.	5.19	+	
		-	-	66kV CHP - Gedu Fdr.	10.87	+	
		-	-	3x3MVA, 66/11kV TFR	1.08	+	
Total	155.85	Error at Station/Auxiliary Consumption/Losses	0.79				
4	24MW BHP (U/S)	Unit- I	0.00	220kV BHP - Semtokha Fdr.	30.70	+	U/S Unit-I under shutdown(15.4.2020- 15.5.2020) & L/S Unit I standby
		Unit- II	5.18	66kV BHP - Lobeyasa Fdr.	9.38	+	
		Total	5.18	220kV BHP - Tsirang Fdr.	-24.20	-	
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.88	+	
		Unit- II	11.78	30MVA ICT, 220/66kV			
Total	11.78	Error at Station/Auxiliary Consumption/Losses	0.20				
5	126MW DHPC	Unit-I	23.21	220kV DHPC - Tsirang Fdr.	22.96	+	Unit II standby.
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		Total	23.21	Error at Station/Auxiliary Consumption/Losses	0.25		
6	60MW KHP	Unit- I	16.50	132kV KHP - Nangkhon Fdr- I	60.23	+	.220kV JLG- TSI-JLG under breakdown
		Unit-II	16.50	132kV KHP - Kilikhar Fdr- II	4.65	+	
		Unit- III	16.50	5MVA, 132/11kV TFR	0.43	+	
		Unit- IV	16.50	132kV Gelephu - Salakati Fdr.	-2.08	-	
		-	-	132kV Motanga - Rangia Fdr.	22.40	+	
		-	-	220kV Tsirang - Jigmeling	0.00		
		Total	66.00	Error at Station/Auxiliary Consumption/Losses	0.69		

Note: Load summary on April 20, 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	525.21	200.19	192.23	325.02	7.96
2	Eastern Grid	305.21	44.89	44.99	260.32	-0.10
	Total	830.42	245.08	237.22	585.34	7.86

Note: Load Summary on April 20, 2019 at 09:00hrs

Sl. No	Region	09:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	221.43	246.96	286.38
2	Eastern Grid	39.96	56.10	62.64
	National	261.39	303.06	349.02

NOTES: KHP,BHP-TSI 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.
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