

BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	June 23, 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	187.00	400kV THP - Siliguri Fdr- I	349.61	+	400kV THP_SIL II under breakdown.
		Unit- II	187.00	400kV THP - Siliguri Fdr- II	0.00	+	
		Unit- III	186.73	400kV THP - Siliguri Fdr- IV	333.58	+	
		Unit- IV	186.99	400kV THP - Malbase Fdr- III	421.24	+	
		Unit- V	186.58	400kV Malbase - Siliguri	308.79	+	
		Unit- VI	186.96	-	-	-	
		Total	1,121.26	Error at Station/Auxiliary Consumption/Losses	16.83		
2	720MW MHP	Unit-I	197.89	400kV MHP - Jigmeling Fdr - I	198.23	+	Unit-III shutdown & 400kV MHP-JLG IV Standby
		Unit-II	197.92	400kV MHP - Jigmeling Fdr - II	198.92	+	
		Unit-III	0.00	400kV MHP - Jigmeling Fdr - III	193.78	+	
		Unit-IV	197.97	400kV MHP - Jigmeling Fdr - IV	0.00		
		-	-	200MVA, 400/132kV ICT	0.00		
		-	-	(Local Load)			
		Total	593.78	Error at Station/Auxiliary Consumption/Losses	2.85		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	66.10	+	Unit-II under maintenance. Unit I under shutdown till 30th June,2020.
		Unit- II	0.00	220kV CHP - Birpara Fdr- II	65.99	+	
		Unit- III	91.82	220kV CHP - Malbase Fdr- III	90.50	+	
		Unit- IV	91.55	220kV CHP - Semtokha Fdr- IV	-50.90	-	
		-	-	220kV Malbase - Birpara Fdr.	40.20	+	
		-	-	66kV CHP - Chumdo Fdr.	3.28	+	
		-	-	66kV CHP - Gedu Fdr.	6.14	+	
		Total	183.37	Error at Station/Auxiliary Consumption/Losses	0.95		
4	24MW BHP (U/S)	Unit- I	11.86	220kV BHP - Semtokha Fdr.	74.77	+	
		Unit- II	11.86	66kV BHP - Lobeysa Fdr.	17.52	+	
		Total	23.72	220kV BHP - Tsirang Fdr.	-27.77	-	
	40MW BHP (L/S)	Unit- I	20.96	5MVA, 66/11kV TFR	1.17	+	
		Unit- II	20.23	30MVA ICT, 220/66kV	0.00		
		Total	41.19	Error at Station/Auxiliary Consumption/Losses	0.78		
5	126MW DHPC	Unit-I	50.25	220kV DHPC - Tsirang Fdr.	100.04	+	
		Unit-II	50.25	220kV Jigmeling - Dagapela Fdr.	1.56	+	
		-	-	5MVA, 220/33kV TFR	0.00		
		Total	100.50	Error at Station/Auxiliary Consumption/Losses	0.46		
6	60MW KHP	Unit- I	16.50	132kV KHP - Nangkhon Fdr- I	38.93	+	
		Unit-II	16.50	132kV KHP - Kilikhar Fdr- II	25.99	+	
		Unit- III	16.50	5MVA, 132/11kV TFR	0.27	+	
		Unit- IV	16.50	132kV Gelephu - Salakati Fdr.	39.41	+	
		-	-	132kV Motanga - Rangia Fdr.	48.63	+	
		-	-	220kV Tsirang - Jigmeling	70.00	+	
Total	66.00	Error at Station/Auxiliary Consumption/Losses	0.81				

Note: Generation-Load Summary for June 23, 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	1,470.04	235.77	219.87	1,164.27	15.90
2	Eastern Grid	659.78	50.81	47.15	678.97	3.66
	Total	2,129.82	286.58	267.02	1,843.24	19.56

Note: Generation-Load Summary for June 23, 2019 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	720.35	220.81	213.79	456.69	7.02
2	Eastern Grid	64.8	59.22	58.94	48.43	0.28
	Total	785.15	280.03	272.73	505.12	7.30

NOTE: KHP,MHEP, Motanga 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:	June 24, 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	186.48	400kV THP - Siliguri Fdr- I	0.00	+	400kV THP_SIL I & II under breakdown.
		Unit- II	187.29	400kV THP - Siliguri Fdr- II	0.00	+	
		Unit- III	187.04	400kV THP - Siliguri Fdr- IV	517.36	+	
		Unit- IV	186.71	400kV THP - Malbase Fdr- III	589.03	+	
		Unit- V	186.99	400kV Malbase - Siliguri	488.55	+	
		Unit- VI	185.75	-	-	-	
		Total	1,120.26	Error at Station/Auxiliary Consumption/Losses	13.87		
2	720MW MHP	Unit-I	197.84	400kV MHP - Jigmeling Fdr - I	198.18	+	Unit-III shutdown & 400kV MHP-JLG IV Standby.
		Unit-II	196.86	400kV MHP - Jigmeling Fdr - II	199.63	+	
		Unit-III	0.00	400kV MHP - Jigmeling Fdr - III	193.45	+	
		Unit-IV	197.81	400kV MHP - Jigmeling Fdr - IV	0.00	+	
		-	-	200MVA, 400/132kV ICT	0.00		
		-	-	(Local Load)			
		Total	592.51	Error at Station/Auxiliary Consumption/Losses	1.25		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	101.33	+	Unit-I under shutdown till 30th June, 2020.
		Unit- II	90.41	220kV CHP - Birpara Fdr- II	101.37	+	
		Unit- III	91.45	220kV CHP - Malbase Fdr- III	119.02	+	
		Unit- IV	91.31	220kV CHP - Semtokha Fdr- IV	-58.10	-	
		-	-	220kV Malbase - Birpara Fdr.	74.45	+	
		-	-	66kV CHP - Chumdo Fdr.	1.18	+	
		-	-	66kV CHP - Gedu Fdr.	6.67	+	
		-	-	3x3MVA, 66/11kV TFR	0.72	+	
		Total	273.17	Error at Station/Auxiliary Consumption/Losses	0.98		
4	24MW BHP (U/S)	Unit- I	11.86	220kV BHP - Semtokha Fdr.	75.71	+	
		Unit- II	11.86	66kV BHP - Lobeysa Fdr.	15.78	+	
		Total	23.72	220kV BHP - Tsirang Fdr.	-25.96	-	
	40MW BHP (L/S)	Unit- I	21.03	5MVA, 66/11kV TFR	0.40	+	
		Unit- II	20.22	30MVA ICT, 220/66kV			
		Total	41.25	Error at Station/Auxiliary Consumption/Losses	-0.96		
5	126MW DHPC	Unit-I	48.28	220kV DHPC - Tsirang Fdr.	96.11	+	
		Unit-II	48.29	220kV Jigmeling - Dagapela Fdr.	0.90	+	
		-	-	5MVA, 220/33kV TFR			
		Total	96.57	Error at Station/Auxiliary Consumption/Losses	0.46		
6	60MW KHP	Unit- I	16.50	132kV KHP - Nangkhon Fdr- I	41.51	+	
		Unit-II	16.50	132kV KHP - Kilikhar Fdr- II	23.00	+	
		Unit- III	16.50	5MVA, 132/11kV TFR	0.17	+	
		Unit- IV	16.50	132kV Gelephu - Salakati Fdr.	35.38	+	
		-	-	132kV Motanga - Rangia Fdr.	48.93	+	
		-	-	220kV Tsirang - Jigmeling	67.54	+	
		Total	66.00	Error at Station/Auxiliary Consumption/Losses	1.33		

Note: Generation-Load summary for June 24, 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	1,554.97	204.37	190.92	1,283.06	13.45
2	Eastern Grid	658.51	50.48	47.91	675.57	2.58
	Total	2,213.48	254.85	238.83	1,958.63	16.03

Note: Generation-Load Summary for June 24, 2019 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	588.71	230.28	221.05	327.05	9.23
2	Eastern Grid	65.03	52.02	51.75	44.69	0.27
	Total	653.74	282.30	272.80	371.74	9.50

NOTES: KHP & Motanga 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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