BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Maximum Load/Demand till Date

Date:	May 3, 2021
Hours:	19:00 Hours

Date	Time	Load(MW)
27-Dec-18	18:18hrs	399.35MW

Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Sign	Remarks
1	1020MW THP	Unit- I	88.93	400kV THP - Siliguri Line - I	54.34		Unit-II & VI on standby. Unit-III & IV under AMP. 400kV THP_SIL Line II & IV on Standby.
		Unit- II	0.00	400kV THP - Siliguri Line - II	0.00	+	
		Unit- III	0.00	400kV THP - Siliguri Line- IV	0.00		
		Unit- IV	0.00	400kV THP - Malbase Line - III	122.06	+	
		Unit- V	90.93	400kV Malbase - Siliguri Line	34.22		
		Unit- VI	0.00	-	-	-	
		Total	**179.86**	**Error at Station/Auxiliary Consumption/Losses**	**1.924%**		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Line - I	77.60		Unit-I under AMP. Unit -III under breakdown. 400kV MHP-JLG Line I, II & III on standby. 132kV MHP_Yurmoo line I & II not in service. 400/220kV ICT at JLG not in service. 400kV JLG_ALI line II on standby.
		Unit-II	60.22	400kV MHP - Jigmeling Line - II	0.00		
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	95.67	400kV MHP - Jigmeling Line - IV	78.35	+	
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	0.00		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	0.00	+	
		-	-	400kV Jigmeling - Alipurduar Line - I	153.20	+	
		-	-	400kV Jigmeling - Alipurduar Line - II	0.00		
		-	-	80MVA, 220/132kV ICT - I (HV)	7.40	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	7.40	+	
		-	-	220kV Tsirang - Jigmeling Line	17.65	+	
				132kV Gelephu - Salakati Line	-28.20	-	
		Total	**155.89**	**Error at Station/Auxiliary Consumption/Losses**	**-0.038%**		
3	336MW CHP	Unit- I	54.50	220kV CHP - Birpara Line- I	5.50	-	Unit-II on standby. Unit-IV under AMP. 220kV CHP_BIR line II on standby.
		Unit- II	0.00	220kV CHP - Birpara Line- II	5.48		
		Unit- III	63.64	220kV CHP - Malbase Line- III	42.54	+	
		Unit- IV	0.00	220kV CHP - Semtokha Line- IV	47.15	+	
		-	-	220kV Malbase - Birpara Line	-22.79	-	
		-	-	66kV CHP - Chumdo Line	13.28	+	
		-	-	66kV CHP - Gedu Line	2.62	+	
		-	-	3x3MVA, 66/11kV TFR	1.51	+	
		Total	**118.14**	**Error at Station/Auxiliary Consumption/Losses**	**0.051%**		
4	24MW BHP (U/S)	Unit- I	0.00	220kV BHP - Semtokha Line	2.40	+	U/S Unit-I & L/S Unit-II on standby
		Unit- II	8.00	66kV BHP - Lobeysa Line	12.50	+	
		Total	**8.00**	220kV BHP - Tsirang Line	6.60	+	
	40MW BHP (L/S)	Unit- I	14.50	5MVA, 66/11kV TFR	0.89	+	
		Unit- II	0.00	30MVA ICT, 220/66kV (HV)	5.42	+	
		Total	**14.50**	**Error at Station/Auxiliary Consumption/Losses**	**0.489%**		
5	126MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	14.08	+	Unit-I on standby. 220kV DHP_Dagapela Line on standby.
		Unit-II	14.31	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	1.90	+	
		-	-	5MVA, 220/33kV TFR	0.23	+	
		Total	**14.31**	**Error at Station/Auxiliary Consumption/Losses**	**0.000%**		
6	60MW KHP	Unit- I	13.08	132kV KHP - Nangkhor Line	11.30	+	Unit-III & IV Standby.
		Unit-II	13.08	132kV KHP - Kilikhar Line	14.00	+	
		Unit- III	0.00	5MVA, 132/11kV TFR	0.50	+	
		Unit- IV	0.00	132kV Motanga - Rangia Line	-0.83	-	
		Total	**26.16**	**Error at Station/Auxiliary Consumption/Losses**	**1.372%**		

Note: Generation-Load Summary (MW) for May 03, 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	334.81	240.41	238.68	76.75	1.73
2	Eastern Grid	182.05	75.53	75.23	124.17	0.30
Total		**516.86**	**315.94**	**313.91**	**200.92**	**2.03**

Note: Generation-Load Summary for May 03, 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	642.17	229.90	220.76	387.61	9.14
2	Eastern Grid	226.34	56.77	54.28	194.23	2.49
Total		**868.51**	**286.67**	**275.04**	**581.84**	**11.63**

NOTE-BHP,CHP,DHP & MHP data collected site

1. 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:

   i) 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.

   ii) The clocks of all the locations are not synchronized.

2. 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	**Time**	**Load(MW)**
27-Dec-18	18:18hrs	399.35MW

Date:	**May 4, 2021**
Hours:	**09:00 Hours**

Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Sign	Remarks
1	**1020MW THP**	Unit- I	90.34	400kV THP - Siliguri Line - I	78.95	+	Unit-II & VI on standby. Unit-III & IV under AMP. 400kV THP_SIL Line II & IV on Standby.
		Unit- II	0.00	400kV THP - Siliguri Line - II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Line- IV	0.00		
		Unit- IV	0.00	400kV THP - Malbase Line - III	125.63	+	
		Unit- V	120.02	400kV Malbase - Siliguri Line	62.76	+	
		Unit- VI		-	-	-	
		Total	**210.36**	**Error at Station/Auxiliary Consumption/Losses**	**2.748%**		
2	**720MW MHP**	Unit-I	0.00	400kV MHP - Jigmeling Line - I	99.78	+	Unit-I under AMP. Unit -III under breakdown. 400kV MHP-JLG Line I, II & III on standby. 132kV MHP_Yurmoo line I & II not in service. 400/220kV ICT at JLG not in service. 400kV JLG_ALI line II on standby.
		Unit-II	50.15	400kV MHP - Jigmeling Line - II	0.00		
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	150.55	400kV MHP - Jigmeling Line - IV	100.34	+	
		-	-	132kV MHP - Yurmo Line - I	0.00		
		-	-	132kV MHP - Yurmo Line - II	0.00		
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	0.00	+	
		-	-	400kV Jigmeling - Alipurduar Line - I	197.90	+	
		-	-	400kV Jigmeling - Alipurduar Line - II	0.00		
		-	-	80MVA, 220/132kV ICT - I (HV)	9.60	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	9.60	+	
				220kV Tsirang - Jigmeling Line	20.31	+	
				132kV Gelephu - Salakati Line	-7.95	-	
		Total	**200.70**	**Error at Station/Auxiliary Consumption/Losses**	**0.289%**		
3	**336MW CHP**	Unit- I	53.00	220kV CHP - Birpara Line- I	4.96	+	.
		Unit- II	0.00	220kV CHP - Birpara Line- II	5.05	+	
		Unit- III	49.46	220kV CHP - Malbase Line- III	48.85	+	
		Unit- IV	0.00	220kV CHP - Semtokha Line- IV	28.76	+	
		-	-	220kV Malbase - Birpara Line	-29.09	-	
		-	-	66kV CHP - Chumdo Line	9.58	+	
		-	-	66kV CHP - Gedu Line	2.74	+	
		-	-	3x3MVA, 66/11kV TFR	1.00	+	
		Total	**102.46**	**Error at Station/Auxiliary Consumption/Losses**	**1.484%**		
4	**24MW BHP (U/S)**	Unit- I	0.00	220kV BHP - Semtokha Line	11.56	+	U/S Unit-I & L/S Unit-II on standby
		Unit- II	8.10	66kV BHP - Lobeysa Line	11.14	+	
		Total	**8.10**	220kV BHP - Tsirang Line	1.67	+	
	40MW BHP (L/S)	Unit- I	18.00	5MVA, 66/11kV TFR	0.89	+	
		Unit- II	0.00	30MVA ICT, 220/66kV (HV)	3.04	+	
		Total	**18.00**	**Error at Station/Auxiliary Consumption/Losses**	**3.218%**		
5	**126MW DHP**	Unit-I	0.00	220kV DHP - Tsirang Line	18.18	+	Unit-I on standby. 220kV DHP_Dagapela Line on standby.
		Unit-II	18.37	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	1.00	+	
		-	-	5MVA, 220/33kV TFR	0.08	+	
		Total	**18.37**	**Error at Station/Auxiliary Consumption/Losses**	**0.599%**		
6	**60MW KHP**	Unit- I	14.46	132kV KHP - Nangkhor Line	16.28	+	Unit-II & IV standby.
		Unit-II	0.00	132kV KHP - Kilikhar Line	11.91	+	
		Unit- III	14.45	5MVA, 132/11kV TFR	0.35	+	
		Unit- IV	0.00	132kV Motanga - Rangia Line	-2.00	-	
		Total	**28.91**	**Error at Station/Auxiliary Consumption/Losses**	**1.280%**		

Note: Generation-Load Summary (MW) for May 04, 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**	357.29	214.35	207.10	122.63	7.25
2	**Eastern Grid**	229.61	61.97	61.02	187.95	0.95
Total		**586.90**	**276.32**	**268.12**	**310.58**	**8.20**

Note: Generation-Load Summary for May 04, 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**	751.65	189.27	178.65	537.38	10.62
2	**Eastern Grid**	385.60	49.42	45.93	361.18	3.49
Total		**1,137.25**	**238.69**	**224.58**	**898.56**	**14.11**

NOTE- BHP & MHP data collected site

1. 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:

   i) 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.

   ii) The clocks of all the locations are not synchronized.

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