BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT

Coincidental Maximum Load

Date:	August 22, 2022
Hours:	19:00 Hours

Date	Time	Load(MW)
15-Aug-22	19:30 hrs	521.02

Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Remarks
1	1020MW THP	Unit- I	185.18	400kV THP - Siliguri Line - I	0.00	400kV THP_ Siliguri Line I under breakdown
		Unit- II	185.60	400kV THP - Siliguri Line - II	366.06	
		Unit- III	185.90	400kV THP - Siliguri Line- IV	349.48	
		Unit- IV	185.05	400kV THP - Malbase Line - III	390.78	
		Unit- V	185.77	400kV Malbase - Siliguri Line	336.61	
		Unit- VI	185.33	-	-	
		Total	**1,112.83**	**Auxiliary Consumption & Transformation Losses at Generator end**	**0.58%**	
2	720MW MHP	Unit-I	197.45	400kV MHP - Jigmeling Line - I	360.13	400kV MHP-JLG Line II on Standby. 400kV MHP-JLG Line IV under breakdown. 132kV MHP_Yurmoo line I & II not in service. 400kV JLG_ALI Line II (Interim) on Standby.
		Unit-II	197.65	400kV MHP - Jigmeling Line - II	0.00	
		Unit-III	135.35	400kV MHP - Jigmeling Line - III	362.44	
		Unit-IV	196.79	400kV MHP - Jigmeling Line - IV	0.00	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	0.00	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	78.35	
		-	-	400kV Jigmeling - Alipurduar Line - I **(Interim)**	158.76	
		-	-	400kV Jigmeling - Alipurduar Line - II **(Interim)**	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I **(Direct)**	237.94	
		-	-	400kV Jigmeling - Alipurduar Line - II **(Direct)**	239.03	
		-	-	80MVA, 220/132kV ICT - I (HV)	44.40	
		-	-	80MVA, 220/132kV ICT - II (HV)	45.32	
		-	-	220kV Tsirang - Jigmeling Line	-1.21	
		-	-	132kV Gelephu - Salakati Line	15.93	
		Total	**727.24**	**Auxiliary Consumption & Transformation Losses at Generator end**	**0.64%**	
3	336MW CHP	Unit- I	91.65	220kV CHP - Birpara Line- I	118.55	220kV MAL_Birpara Line under breakdown.
		Unit- II	91.09	220kV CHP - Birpara Line- II	118.21	
		Unit- III	91.70	220kV CHP - Malbase Line- III	14.56	
		Unit- IV	75.46	220kV CHP - Semtokha Line- IV	76.33	
		-	-	220kV Malbase - Birpara Line	0.00	
		-	-	66kV CHP - Chumdo Line	15.50	
		-	-	66kV CHP - Gedu Line	5.36	
		-	-	3x3MVA, 66/11kV TFR	1.41	
		Total	**349.90**	**Auxiliary Consumption & Transformation Losses at Generator end**	**-0.01%**	
4	24MW BHP (U/S)	Unit- I	10.60	220kV BHP - Semtokha Line	29.00	
		Unit- II	10.30	66kV BHP - Lobeysa Line	25.29	
		Total	**20.90**	220kV BHP - Tsirang Line	0.38	
5	40MW BHP (L/S)	Unit- I	17.60	5MVA, 66/11kV TFR	0.80	
		Unit- II	17.60	30MVA ICT, 220/66kV (HV)	5.56	
		Total	**35.20**	**Auxiliary Consumption & Transformation Losses at Generator end**	**1.12%**	
6	126MW DHP	Unit-I	35.35	220kV DHP - Tsirang Line	0.00	220kV DHP_Tsirang Line on Standby.
		Unit-II	35.00	220kV DHP - Dagapela Line	69.85	
		-		220kV Jigmeling - Dagapela Line	-14.46	
		-	-	5MVA, 220/33kV TFR	0.40	
		Total	**70.35**	**Auxiliary Consumption & Transformation Losses at Gen. end**	**0.14%**	
7	60MW KHP	Unit- I	16.53	132kV KHP - Nangkhor Line	35.88	
		Unit-II	16.60	132kV KHP - Kilikhar Line	29.01	
		Unit- III	16.58	5MVA, 132/11kV TFR	0.50	
		Unit- IV	16.48	132kV Motanga - Rangia Line	38.49	
		Total	**66.19**	**Auxiliary Consumption & Transformation Losses at Generator end**	**1.21%**	

Note: Generation-Load Summary (MW) for August 22, 2022 at 19:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Auxiliary Consumption & Transformation Losses (MW)
1	Western Grid	1,589.18	287.02	279.80	1,288.91	7.22
2	Eastern Grid	793.43	116.53	111.06	690.15	5.47
Total		**2,382.61**	**403.55**	**390.86**	**1,979.06**	**12.69**

Note: Generation-Load Summary for August 22, 2021 at 19:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Auxiliary Consumption & Transformation Losses (MW)
1	Western Grid	1,672.08	287.40	278.46	1,281.19	8.94
2	Eastern Grid	837.21	87.04	80.97	853.66	6.07
Total		**2,509.29**	**374.44**	**359.43**	**2,134.85**	**15.01**

NOTE- BHP loads collected from site

1. The Instantaneous load balance,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

Coincidental Maximum Load

Date:	August 23, 2022
Hours:	09:00 Hours

Date	Time	Load(MW)
15-Aug-22	19:30 hrs	521.02

Sl. No.	Hydropower Plant	Unit	MW	Transmission Lines and Elements	Load (MW)	Remarks
1	1020MW THP	Unit- I	185.52	400kV THP - Siliguri Line - I	0.00	400kV THP_Siliguri Line I under breakdown.
		Unit- II	185.76	400kV THP - Siliguri Line - II	373.88	
		Unit- III	185.49	400kV THP - Siliguri Line- IV	358.23	
		Unit- IV	184.22	400kV THP - Malbase Line - III	374.10	
		Unit- V	185.31	400kV Malbase - Siliguri Line	349.23	
		Unit- VI	185.96	-	-	
		Total	**1,112.26**	**Auxiliary Consumption & Transformation Losses at Generator end**	**0.54%**	
2	720MW MHP	Unit-I	197.91	400kV MHP - Jigmeling Line - I	361.12	400kV MHP-JLG Line II under standby and IV under breakdown. 132kV MHP_Yurmoo line I & II not in service. 400kV JLG_ALI Line II (Interim) on Standby.
		Unit-II	197.88	400kV MHP - Jigmeling Line - II	0.00	
		Unit-III	135.48	400kV MHP - Jigmeling Line - III	363.35	
		Unit-IV	197.30	400kV MHP - Jigmeling Line - IV	0.00	
		-	-	132kV MHP - Yurmo Line - I	0.00	
		-	-	132kV MHP - Yurmo Line - II	0.00	
		-	-	500MVA, 400/220kV ICT at Jigmeling (HV)	40.63	
		-	-	400kV Jigmeling - Alipurduar Line - I **(Interim)**	168.81	
		-	-	400kV Jigmeling - Alipurduar Line - II **(Interim)**	0.00	
		-	-	400kV Jigmeling - Alipurduar Line - I **(Direct)**	252.25	
		-	-	400kV Jigmeling - Alipurduar Line - II **(Direct)**	253.94	
		-	-	80MVA, 220/132kV ICT - I (HV)	29.68	
		-	-	80MVA, 220/132kV ICT - II (HV)	30.23	
		-	-	220kV Tsirang - Jigmeling Line	2.05	
		-	-	132kV Gelephu - Salakati Line	10.52	
		Total	**728.57**	**Auxiliary Consumption & Transformation Losses at Generator end**	**0.56%**	
3	336MW CHP	Unit- I	91.05	220kV CHP - Birpara Line- I	113.24	220kV MAL_BIR line under breakdown.
		Unit- II	90.98	220kV CHP - Birpara Line- II	113.03	
		Unit- III	91.09	220kV CHP - Malbase Line- III	45.72	
		Unit- IV	75.34	220kV CHP - Semtokha Line- IV	58.26	
		-	-	220kV Malbase - Birpara Line	0.00	
		-	-	66kV CHP - Chumdo Line	11.96	
		-	-	66kV CHP - Gedu Line	5.18	
		-	-	3x3MVA, 66/11kV TFR	0.72	
		Total	**348.46**	**Auxiliary Consumption & Transformation Losses at Generator end**	**0.10%**	
4	24MW BHP (U/S)	Unit- I	10.60	220kV BHP - Semtokha Line	33.10	
		Unit- II	10.90	66kV BHP - Lobeysa Line	23.06	
		Total	**21.50**	220kV BHP - Tsirang Line	2.70	
5	40MW BHP (L/S)	Unit- I	18.90	5MVA, 66/11kV TFR	0.45	
		Unit- II	19.10	30MVA ICT, 220/66kV (HV)	3.09	
		Total	**38.00**	**Auxiliary Consumption & Transformation Losses at Generator end**	**0.32%**	
6	126MW DHP	Unit-I	38.35	220kV DHP - Tsirang Line	0.00	220kV DHP_TSI Line on Standby.
		Unit-II	36.00	220kV DHP - Dagapela Line	73.91	
		-	-	220kV Jigmeling - Dagapela Line	-18.85	
		-	-	5MVA, 220/33kV TFR	0.30	
		Total	**74.35**	**Auxiliary Consumption & Transformation Losses at Generator end**	**0.19%**	
7	60MW KHP	Unit- I	16.50	132kV KHP - Nangkhor Line	41.59	
		Unit-II	16.50	132kV KHP - Kilikhar Line	23.34	
		Unit- III	16.50	5MVA, 132/11kV TFR	0.36	
		Unit- IV	16.50	132kV Motanga - Rangia Line	29.37	
		Total	**66.00**	**Auxiliary Consumption & Transformation Losses at Generator end**	**1.08%**	

Note: Generation-Load Summary (MW) for August 23, 2022 at 09:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Auxiliary Consumption & Transformation Losses (MW)
1	Western Grid	1,594.57	266.06	259.33	1,307.61	6.73
2	Eastern Grid	794.57	100.58	95.77	714.89	4.81
Total		**2,389.14**	**366.64**	**355.10**	**2,022.50**	**11.54**

Note: Generation-Load Summary for August 23, 2021 at 09:00hrs.

Sl. No	Region	Total Generation (MW)	Total Load [Generation - Export (MW)]	Total Load [Feeder Summation (MW)]	Total Export/Import (MW)	Auxiliary Consumption & Transformation Losses (MW)
1	Western Grid	1,578.80	286.95	278.12	1,207.78	8.83
2	Eastern Grid	851.74	68.94	64.21	866.87	4.73
Total		**2,430.54**	**355.89**	**342.33**	**2,074.65**	**13.56**

1. The Instantaneous load balance,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.