

**BHUTAN POWER SYSTEM OPERATOR LOAD-GENERATION BALANCE REPORT**

**Maximum Load/Demand till Date**

<b>Date:</b>	<b>May 10, 2021</b>
<b>Hours:</b>	<b>19:00 Hours</b>

<b>Date</b>	<b>Time</b>	<b>Load(MW)</b>
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	0.00	400kV THP - Siliguri Line - I	150.78	+	Unit-III under AMP. Unit-I, V 400kV THP_SIL Line II & IV on Standby.
		Unit- II	172.57	400kV THP - Siliguri Line - II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Line- IV	0.00		
		Unit- IV	70.07	400kV THP - Malbase Line - III	220.18	+	
		Unit- V	0.00	400kV Malbase - Siliguri Line	124.68	+	
		Unit- VI	137.46	-	-	-	
		<b>Total</b>	<b>380.10</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>		<b>2.405%</b>	
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Line - I	0.00		Unit-I under AMP. Unit -III under breakdown. 400kV MHP-JLG Line I & 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	100.19	400kV MHP - Jigmeling Line - II	114.90	+	
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	130.32	400kV MHP - Jigmeling Line - IV	114.90	+	
		-	-	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	224.14	+	
		-	-	400kV Jigmeling - Alipurduar Line - II	0.00		
		-	-	80MVA, 220/132kV ICT - I (HV)	7.75	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	7.73	+	
		-	-	220kV Tsirang - Jigmeling Line	17.36	+	
		-	-	132kV Gelephu - Salakati Line	-10.20	-	
<b>Total</b>	<b>230.51</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>		<b>0.308%</b>			
3	336MW CHP	Unit- I	91.43	220kV CHP - Birpara Line- I	29.15	+	Unit-II & IV under standby.
		Unit- II	0.00	220kV CHP - Birpara Line- II	28.94	+	
		Unit- III	90.40	220kV CHP - Malbase Line- III	59.13	+	
		Unit- IV	0.00	220kV CHP - Semtokha Line- IV	40.07	+	
		-	-	220kV Malbase - Birpara Line	1.18	+	
		-	-	66kV CHP - Chumdo Line	18.65	+	
		-	-	66kV CHP - Gedu Line	3.29	+	
		-	-	3x3MVA, 66/11kV TFR	1.50	+	
<b>Total</b>	<b>181.83</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>		<b>0.605%</b>			
4	24MW BHP (U/S)	Unit- I	0.00	220kV BHP - Semtokha Line	2.45	+	Upper Stage Unit I and Lower Stage Unit I on standby.
		Unit- II	5.20	66kV BHP - Lobeyasa Line	9.30	+	
		<b>Total</b>	<b>5.20</b>	220kV BHP - Tsirang Line	3.24	+	
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.89	+	
		Unit- II	10.70	30MVA ICT, 220/66kV (HV)	5.01	+	
<b>Total</b>	<b>10.70</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>		<b>0.126%</b>			
5	126MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	15.73	+	Unit-I on standby. 220kV DHP_Dagapela Line on standby.
		Unit-II	15.93	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	1.74	+	
		-	-	5MVA, 220/33kV TFR	0.18	+	
		<b>Total</b>	<b>15.93</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>		<b>0.126%</b>	
6	60MW KHP	Unit- I	10.08	132kV KHP - Nangkhor Line	22.81	+	
		Unit-II	10.14	132kV KHP - Kilikhar Line	16.50	+	
		Unit- III	10.13	5MVA, 132/11kV TFR	0.35	+	
		Unit- IV	10.03	132kV Motanga - Rangia Line	11.15	+	
		<b>Total</b>	<b>40.38</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>		<b>1.783%</b>	

**Note: Generation-Load Summary (MW) for May 10, 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	593.76	241.67	233.13	334.73	8.54
2	Eastern Grid	270.89	63.16	61.73	225.09	1.43
<b>Total</b>		<b>864.65</b>	<b>304.83</b>	<b>294.86</b>	<b>559.82</b>	<b>9.97</b>

**Note: Generation-Load Summary for May 10, 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	511.45	227.85	221.49	263.15	6.36
2	Eastern Grid	266.30	62.03	57.77	224.72	4.26
<b>Total</b>		<b>777.75</b>	<b>289.88</b>	<b>279.26</b>	<b>487.87</b>	<b>10.62</b>

**NOTE-BHP,KHP,MOT,GEL,JLG & MHP data collected 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.

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<b>Date:</b>	<b>May 11, 2021</b>
<b>Hours:</b>	<b>09:00 Hours</b>

<b>Date</b>	<b>Time</b>	<b>Load(MW)</b>
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	0.00	400kV THP - Siliguri Line - I	84.33	+	Unit-I & V on standby. Unit-III & IV under AMP. 400kV THP_SIL Line II & IV on Standby.
		Unit- II	69.76	400kV THP - Siliguri Line - II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Line- IV	0.00		
		Unit- IV	69.94	400kV THP - Malbase Line - III	120.56	+	
		Unit- V	0.00	400kV Malbase - Siliguri Line	70.37	+	
		Unit- VI	70.65	-	-	-	
		<b>Total</b>	<b>210.35</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>		<b>2.596%</b>	
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Line - I	0.00		Unit-I under AMP. Unit -III under breakdown. 400kV MHP-JLG Line I & III on standby. 132kV MHP_Yurmo line I & II not in service. 400/220kV ICT at JLG not in service. 400kV JLG_ALI line II on standby.
		Unit-II	144.83	400kV MHP - Jigmeling Line - II	144.02	+	
		Unit-III	0.00	400kV MHP - Jigmeling Line - III	0.00		
		Unit-IV	145.25	400kV MHP - Jigmeling Line - IV	144.35	+	
		-	-	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	286.00	+	
		-	-	400kV Jigmeling - Alipurduar Line - II	0.00		
		-	-	80MVA, 220/132kV ICT - I (HV)	1.00	+	
		-	-	80MVA, 220/132kV ICT - II (HV)	-1.80	-	
		-	-	220kV Tsirang - Jigmeling Line	-4.85	-	
		-	-	132kV Gelephu - Salakati Line	-10.80	-	
<b>Total</b>	<b>290.08</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>		<b>0.589%</b>			
3	336MW CHP	Unit- I	81.65	220kV CHP - Birpara Line- I	24.27	+	Unit-II standby. Unit-IV under shutdown.
		Unit- II	0.00	220kV CHP - Birpara Line- II	24.18	+	
		Unit- III	79.34	220kV CHP - Malbase Line- III	84.42	+	
		Unit- IV	0.00	220kV CHP - Semtokha Line- IV	9.60	+	
		-	-	220kV Malbase - Birpara Line	-25.30	-	
		-	-	66kV CHP - Chumdo Line	13.57	+	
		-	-	66kV CHP - Gedu Line	3.46	+	
		-	-	3x3MVA, 66/11kV TFR	1.00	+	
<b>Total</b>	<b>160.99</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>		<b>0.304%</b>			
4	24MW BHP (U/S)	Unit- I	0.00	220kV BHP - Semtokha Line	20.90	+	Upper Stage Unit I and Lower Stage Unit I on standby.
		Unit- II	6.60	66kV BHP - Lobeyasa Line	7.20	+	
		<b>Total</b>	<b>6.60</b>	220kV BHP - Tsirang Line	-9.53	-	
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.90	+	
		Unit- II	12.20	30MVA ICT, 220/66kV (HV)	2.55	+	
<b>Total</b>	<b>12.20</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>		<b>-3.564%</b>			
5	126MW DHP	Unit-I	0.00	220kV DHP - Tsirang Line	15.68	+	Unit-I on standby. 220kV DHP_Dagapela Line on standby.
		Unit-II	15.93	220kV DHP - Dagapela Line	0.00		
		-	-	220kV Jigmeling - Dagapela Line	0.90	+	
		-	-	5MVA, 220/33kV TFR	0.20	+	
		<b>Total</b>	<b>15.93</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>		<b>0.314%</b>	
6	60MW KHP	Unit- I	16.27	132kV KHP - Nangkhor Line	42.61	+	
		Unit-II	16.14	132kV KHP - Kilikhar Line	21.20	+	
		Unit- III	15.59	5MVA, 132/11kV TFR	0.32	+	
		Unit- IV	16.40	132kV Motanga - Rangia Line	29.60	+	
		<b>Total</b>	<b>64.40</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>		<b>0.419%</b>	

**Note: Generation-Load Summary (MW) for May 11, 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	406.07	233.07	228.64	177.85	4.43
2	Eastern Grid	354.48	44.83	42.85	304.80	1.98
<b>Total</b>		<b>760.55</b>	<b>277.90</b>	<b>271.49</b>	<b>482.65</b>	<b>6.41</b>

**Note: Generation-Load Summary for May 11, 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	503.59	191.38	184.32	304.36	7.06
2	Eastern Grid	299.30	47.32	45.11	259.83	2.21
<b>Total</b>		<b>802.89</b>	<b>238.70</b>	<b>229.43</b>	<b>564.19</b>	<b>9.27</b>

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