

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

Maximum Load/Demand till Date

Date:	February 18, 2021
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	118.17	400kV THP - Siliguri Fdr- I	56.50	+	Unit-III on standby. Unit-IV, V & VI under shutdown. 400kV THP-SIL Fdr II on standby. 400kV THP-SIL Fdr IV under AMP.
		Unit- II	69.27	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	0.00		
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	127.91	+	
		Unit- V	0.00	400kV Malbase - Siliguri	38.00	+	
		Unit- VI	0.00	-	-	-	
		<b>Total</b>	<b>187.44</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>1.617%</b>		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit- I standby. Unit-II under maintenance. Unit-III under breakdown. 400kV MHP-JLG Fdr I, III & IV on standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	97.09	+	
		Unit-III	0.00	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	97.12	400kV MHP - Jigmeling Fdr - IV	0.00		
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		<b>Total</b>	<b>97.12</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>0.031%</b>		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	0.00	-	Unit-I & III under Annual Maintenance 220kV CHP-BIR I on Standby
		Unit- II	35.94	220kV CHP - Birpara Fdr- II	-17.30	-	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	0.00	+	
		Unit- IV	37.05	220kV CHP - Semtokha Fdr- IV	68.12	+	
		-	-	220kV Malbase - Birpara Fdr.	-23.00	-	
		-	-	66kV CHP - Chumdo Fdr.	17.54	+	
		-	-	66kV CHP - Gedu Fdr.	1.71	+	
		-	-	3x3MVA, 66/11kV TFR	2.25	+	
		<b>Total</b>	<b>72.99</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>0.918%</b>		
4	24MW BHP (U/S)	Unit- I	5.33	220kV BHP - Semtokha Fdr.	1.56	+	U/S Unit-II under AMP. L/S Unit-I under standby
		Unit- II	0.00	66kV BHP - Lobeysa Fdr.	16.27	+	
	<b>Total</b>	<b>5.33</b>	<b>220kV BHP - Tsirang Fdr.</b>	<b>-1.88</b>	<b>-</b>		
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.70	+	
Unit- II		11.49	30MVA ICT, 220/66kV				
		<b>Total</b>	<b>11.49</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>1.011%</b>		
5	126MW DHPC	Unit-I	0.00	220kV DHPC - Tsirang Fdr.	17.90	+	Unit-I under AMP
		Unit-II	18.15	220kV Jigmeling - Dagapela Fdr.	2.30	+	
		-	-	5MVA, 220/33kV TFR			
		<b>Total</b>	<b>18.15</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>1.377%</b>		
6	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhon Fdr- I	6.53	+	Unit-I on standby. Unit-IV under Annual Maintenance.
		Unit-II	10.11	132kV KHP - Kilihar Fdr- II	12.79	+	
		Unit- III	10.11	5MVA, 132/11kV TFR	0.55	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-32.93	-	
		-	-	132kV Motanga - Rangia Fdr.	-5.12	-	
		-	-	220kV Tsirang - Jigmeling	12.50	+	
		<b>Total</b>	<b>20.22</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>1.741%</b>		

**Note: Generation-Load Summary for February 18, 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	295.40	228.70	226.88	54.20	1.82
2	Eastern Grid	117.34	70.80	70.42	59.04	0.38
	<b>Total</b>	<b>412.74</b>	<b>299.50</b>	<b>297.30</b>	<b>113.24</b>	<b>2.20</b>

**Note: Generation-Load Summary for February 18, 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	347.59	289.58	283.63	25.1	5.95
2	Eastern Grid	72.79	86.45	83.75	19.25	2.70
	<b>Total</b>	<b>420.38</b>	<b>376.03</b>	<b>367.38</b>	<b>44.35</b>	<b>8.65</b>

**NOTE- All data 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:	February 19, 2021
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	118.80	400kV THP - Siliguri Fdr- I	57.33	+	Unit-III on standby. Unit-IV, V & VI under shutdown. 400kV THP-SIL Fdr II on standby. 400kV Tala-Sil IV under AMP.
		Unit- II	71.49	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	0.00	400kV THP - Siliguri Fdr- IV	0.00		
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	129.52	+	
		Unit- V	0.00	400kV Malbase - Siliguri	40.00	+	
		Unit- VI	0.00	-	-	-	
		<b>Total</b>	<b>190.29</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>1.808%</b>		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	0.00		Unit-II under maintenance. Unit-III under breakdown. Unit I on Standby 400kV MHP-JLG Fdr I,III & IV on standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	95.30	+	
		Unit-III	0.00	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	95.40	400kV MHP - Jigmeling Fdr - IV	0.00		
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)			
		<b>Total</b>	<b>95.40</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>0.105%</b>		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	0.00		Unit-I & III under AMP. 220kV CHP-BIR I on Standby
		Unit- II	40.63	220kV CHP - Birpara Fdr- II	12.77	+	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	0.00	+	
		Unit- IV	34.63	220kV CHP - Semtokha Fdr- IV	44.30	+	
		-	-	220kV Malbase - Birpara Fdr.	-33.00	-	
		-	-	66kV CHP - Chumdo Fdr.	12.87	+	
		-	-	66kV CHP - Gedu Fdr.	3.22	+	
		-	-	3x3MVA, 66/11kV TFR	1.50	+	
		<b>Total</b>	<b>75.26</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>0.797%</b>		
4	24MW BHP (U/S)	Unit- I	5.23	220kV BHP - Semtokha Fdr.	11.23	+	U/S Unit-II under AMP. L/S Unit-I under standby.
		Unit- II	0.00	66kV BHP - Lobeysa Fdr.	13.40	+	
	<b>Total</b>	<b>5.23</b>	220kV BHP - Tsirang Fdr.	-8.20	-		
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.50	+	
Unit- II		11.66	30MVA ICT, 220/66kV				
		<b>Total</b>	<b>11.66</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>-0.237%</b>		
5	126MW DHPC	Unit-I	0.00	220kV DHPC - Tsirang Fdr.	18.68	+	Unit-I under AMP
		Unit-II	18.88	220kV Jigmeling - Dagapela Fdr.	1.50	+	
		-	-	5MVA, 220/33kV TFR			
		<b>Total</b>	<b>18.88</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>1.059%</b>		
6	60MW KHP	Unit- I	0.00	132kV KHP - Nangkhon Fdr- I	5.03	+	Unit-IV under Annual Maintenance. Unit-I & II on standby.
		Unit-II	0.00	132kV KHP - Kilikhar Fdr- II	10.84	+	
		Unit- III	16.50	5MVA, 132/11kV TFR	0.35	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-18.01	-	
		-	-	132kV Motanga - Rangia Fdr.	-10.86	-	
		-	-	220kV Tsirang - Jigmeling	9.25	+	
		<b>Total</b>	<b>16.50</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>1.673%</b>		

Note: Generation-Load summary for February 19, 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	301.32	214.97	212.27	77.10	2.70
2	Eastern Grid	111.90	54.72	54.34	66.43	0.38
	<b>Total</b>	<b>413.22</b>	<b>269.69</b>	<b>266.61</b>	<b>143.53</b>	<b>3.08</b>

Note: Generation-Load Summary for February 19, 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	224.62	241.28	237.03	-42.91	4.25
2	Eastern Grid	70.77	74.68	73.80	22.34	0.88
	<b>Total</b>	<b>295.39</b>	<b>315.96</b>	<b>310.83</b>	<b>-20.57</b>	<b>5.13</b>

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  - 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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