

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

Maximum Load/Demand till Date

Date:	April 17, 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	89.65	400kV THP - Siliguri Fdr- I	71.95	+	Unit- II,IV & V standby. 400kV THP-SIL II standby
		Unit- II	0.00	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	59.59	400kV THP - Siliguri Fdr- IV	67.43	+	
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	134.21	+	
		Unit- V	0.00	400kV Malbase - Siliguri	54.55	+	
		Unit- VI	130.51	-	-	-	
		<b>Total</b>	<b>279.75</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>6.16</b>		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	74.32	+	Unit-II & IV Standby & Unit I AMP(11 to 30.4.2020). 400kV MHP-JLG II & III Standby.
		Unit-II	0.00	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	150.13	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	0.00	400kV MHP - Jigmeling Fdr - IV	75.03	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)	0.00	+	
		<b>Total</b>	<b>150.13</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>0.78</b>		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	41.96	+	Unit-I under shutdown till 30th April and Unit III standby. 220kV CHP-Mal under shutdown till 25.4.2020.
		Unit- II	59.09	220kV CHP - Birpara Fdr- II	41.78	+	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	0.00		
		Unit- IV	75.99	220kV CHP - Semtokha Fdr- IV	30.55	+	
		-	-	220kV Malbase - Birpara Fdr.	-64.48	-	
		-	-	66kV CHP - Chumdo Fdr.	10.25	+	
		-	-	66kV CHP - Gedu Fdr.	7.55	+	
		-	-	3x3MVA, 66/11kV TFR	1.65	+	
		<b>Total</b>	<b>135.08</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>1.34</b>		
4	24MW BHP (U/S)	Unit- I	0.00	220kV BHP - Semtokha Fdr.	13.63	+	U/S Unit-I under shutdown(15.4.2020-15.5.2020) & L/S Unit I standby
		Unit- II	4.36	66kV BHP - Lobeysa Fdr.	11.58	+	
		<b>Total</b>	<b>4.36</b>	220kV BHP - Tsirang Fdr.	-14.64	-	
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.77	+	
		Unit- II	8.74	30MVA ICT, 220/66kV			
		<b>Total</b>	<b>8.74</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>1.76</b>		
5	126MW DHPC	Unit-I	16.14	220kV DHPC - Tsirang Fdr.	15.89	+	Unit-II Standby
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		<b>Total</b>	<b>16.14</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>0.25</b>		
6	60MW KHP	Unit- I	14.50	132kV KHP - Nangkhon Fdr- I	18.79	+	Unit-II & IV standby. 220kV JLG- TSI line under breakdown.
		Unit-II	0.00	132kV KHP - Kilikhar Fdr- II	9.96	+	
		Unit- III	14.55	5MVA, 132/11kV TFR	0.31	+	
		Unit- IV	0.00	132kV Gelephu - Salakati Fdr.	-24.65	-	
		-	-	132kV Motanga - Rangia Fdr.	-4.80	-	
		-	-	220kV Tsirang - Jigmeling	0.00		
		<b>Total</b>	<b>29.05</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>-0.01</b>		

Note: Load summary on April 17, 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	444.07	230.88	221.37	213.19	9.51
2	Eastern Grid	179.18	59.28	58.51	119.90	0.77
	<b>Total</b>	<b>623.25</b>	<b>290.16</b>	<b>279.88</b>	<b>333.09</b>	<b>10.28</b>

Note: Load Summary on April 17, 2019 at 19:00hrs

Sl. No	Region	19:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	234.74	240.30	286.38
2	Eastern Grid	65.91	65.91	62.64
	<b>National</b>	<b>300.65</b>	<b>306.21</b>	<b>349.02</b>

NOTES:KHP & TSI feeder Loads 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:	April 18, 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	60.88	400kV THP - Siliguri Fdr- I	42.05	+	Unit- II,IV & V standby. 400kV THP-SIL II standby.
		Unit- II	0.00	400kV THP - Siliguri Fdr- II	0.00		
		Unit- III	60.17	400kV THP - Siliguri Fdr- IV	39.72	+	
		Unit- IV	0.00	400kV THP - Malbase Fdr- III	94.33	+	
		Unit- V	0.00	400kV Malbase - Siliguri	29.84	+	
		Unit- VI	61.06	-	-	-	
		<b>Total</b>	<b>182.11</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>6.01</b>		
2	720MW MHP	Unit-I	0.00	400kV MHP - Jigmeling Fdr - I	116.00	+	Unit-IV Standby & Unit I AMP(11 to 30.4.2020). 400kV MHP-JLG II & III Standby.
		Unit-II	119.00	400kV MHP - Jigmeling Fdr - II	0.00		
		Unit-III	110.00	400kV MHP - Jigmeling Fdr - III	0.00		
		Unit-IV	0.00	400kV MHP - Jigmeling Fdr - IV	113.00	+	
		-	-	200MVA, 400/132kV ICT			
		-	-	(Local Load)	0.00		
		<b>Total</b>	<b>229.00</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>0.00</b>		
3	336MW CHP	Unit- I	0.00	220kV CHP - Birpara Fdr- I	35.01	+	Unit-I under shutdown till 30th April & Unit IV under standby. 220kV CHP-MAL under shutdown till 25.4.2020.
		Unit- II	50.34	220kV CHP - Birpara Fdr- II	34.82	+	
		Unit- III	0.00	220kV CHP - Malbase Fdr- III	0.00		
		Unit- IV	50.64	220kV CHP - Semtokha Fdr- IV	13.55	+	
		-	-	220kV Malbase - Birpara Fdr.	-82.43	-	
		-	-	66kV CHP - Chumdo Fdr.	5.61	+	
		-	-	66kV CHP - Gedu Fdr.	9.63	+	
		-	-	3x3MVA, 66/11kV TFR	0.99	+	
<b>Total</b>	<b>100.98</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>1.37</b>				
4	24MW BHP (U/S)	Unit- I	0.00	220kV BHP - Semtokha Fdr.	18.66	+	U/S Unit-I under shutdown & LS Unit I under standby.
		Unit- II	4.90	66kV BHP - Lobeysa Fdr.	8.80	+	
		<b>Total</b>	<b>4.90</b>	220kV BHP - Tsirang Fdr.	-13.20	-	
	40MW BHP (L/S)	Unit- I	0.00	5MVA, 66/11kV TFR	0.88	+	
		Unit- II	11.40	30MVA ICT, 220/66kV			
<b>Total</b>	<b>11.40</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>1.16</b>				
5	126MW DHPC	Unit-I	14.15	220kV DHPC - Tsirang Fdr.	13.91	+	Unit II standby.
		Unit-II	0.00	220kV Jigmeling - Dagapela Fdr.			
		-	-	5MVA, 220/33kV TFR			
		<b>Total</b>	<b>14.15</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>0.24</b>		
6	60MW KHP	Unit- I	16.00	132kV KHP - Nangkhon Fdr- I	42.25	+	Unit-II standby.220kV JLG-TSI-JLG under breakdown
		Unit-II	0.00	132kV KHP - Kilikhar Fdr- II	4.39	+	
		Unit- III	16.12	5MVA, 132/11kV TFR	0.38	+	
		Unit- IV	15.90	132kV Gelephu - Salakati Fdr.	-6.69	-	
		-	-	132kV Motanga - Rangia Fdr.	11.17	+	
		-	-	220kV Tsirang - Jigmeling	0.00		
		<b>Total</b>	<b>48.02</b>	<b>Error at Station/Auxiliary Consumption/Losses</b>	<b>1.00</b>		

Note: Load summary on April 18, 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	313.54	214.53	205.75	99.01	8.78
2	Eastern Grid	277.02	43.54	42.54	233.48	1.00
	<b>Total</b>	<b>590.56</b>	<b>258.07</b>	<b>248.29</b>	<b>332.49</b>	<b>9.78</b>

Note: Load Summary on April 18, 2019 at 09:00hrs

Sl. No	Region	09:00Hrs Load (MW)	Day Peak Load (MW)	Month Peak Load (MW)
1	Western Grid	211.86	261.11	286.38
2	Eastern Grid	44.38	56.38	62.64
	<b>National</b>	<b>256.24</b>	<b>317.49</b>	<b>349.02</b>

NOTES: KHP and 220kV BHP-TSI load 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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