

**Bhutan Power Corporation Limited**

**Bhutan Power System Operator**

**Thimphu: Bhutan**



**Transmission System Performance Report**

**Third Quarterly Report – July to September, 2021**



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**1. Introduction**

The electricity transmission network in Bhutan is solely owned by Bhutan Power Corporation limited (BPC) and electricity generation is solely owned by Druk Green Power Corporation Limited (DGPC). Bhutan Power System Operator (BPSO) under BPC is responsible for safe, secure and efficient operation of Bhutan transmission network and generation.

This quarterly report is prepared in compliance to the Grid Code Regulation (GCR) 2008, clause 6.14.1, “System Operator has to submit a quarterly report covering the performance of the Transmission System to all Licensees, Authority and Ministry”. This transmission performance report contains summary of growth of peak demand, performance of generating stations (power and energy generation), energy availability and requirement for the country, export and import of electricity to/ from India, frequency profile of selected substation and voltage profile of few important substations.

All the index and other calculations in this report have been executed based on the data received from substations and generating plants.

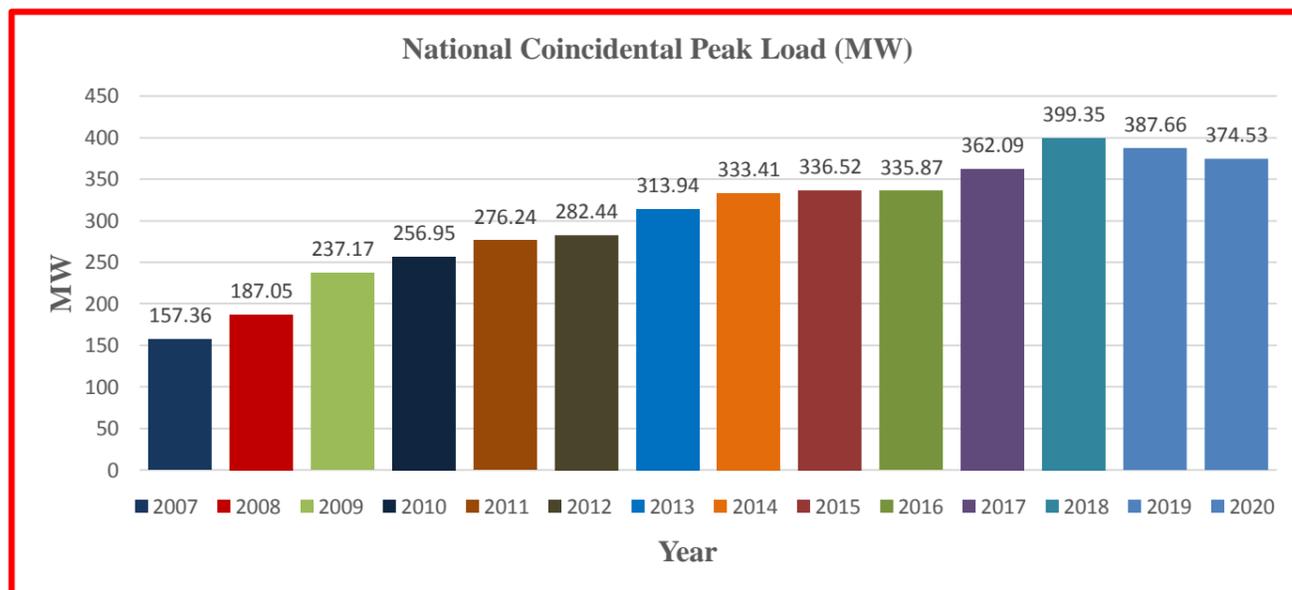
**2. National Peak Demand**

The national peak demand till now is recorded at **399.35MW** which was occurred on December 27, 2018 at 18:18 hours. This is calculated by summation of Feeder Loading at Plants minus Export.

Table 2.1. The National Peak Demand since 2007

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Peak Load (MW)	157.36	187.05	237.17	256.95	276.24	282.44	313.94	333.41	336.52	335.87	362.09	399.35	387.66	374.53
% Growth over previous Year	-	18.87	26.79	8.34	7.51	2.24	11.15	6.20	0.93	-0.19	7.81	10.29	-2.93	-3.39

Graph 2.1. The growth in National Peak Demand since 2007



**2.1. Power (MW) consumed by country**

Following methods are used to calculate peak demand for the Eastern Grid, Western Grid and National demand.

1. **National Demand** = (Sum of all total generation)-(Sum of all Export of Import)
2. **National Demand** = (Sum of all feeders loading at hydropower station) – (Sum of all Export/Import)
3. **National Demand** = (Sum of all substation loading)

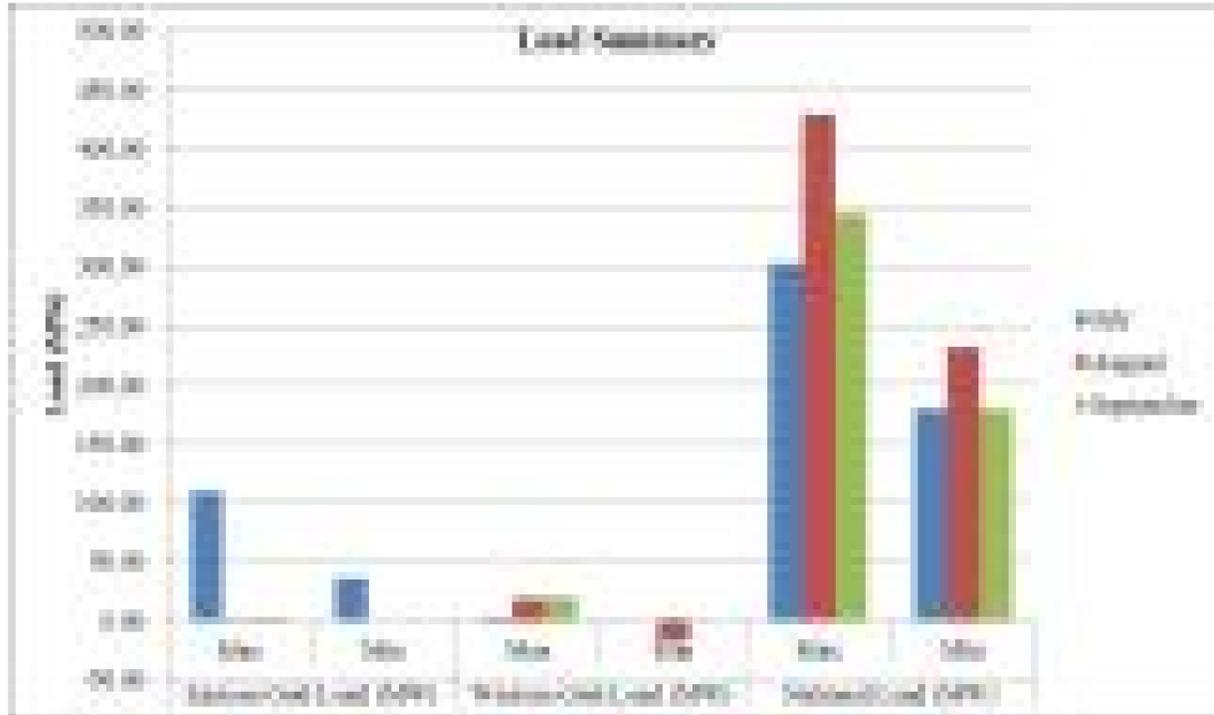
For this report, the National Demand was calculated using method-3.



Table 2.1.2. Domestic demand for Eastern Grid, Western Grid and National using method- 3

Grid	Eastern Grid Load (MW)		Western Grid Load (MW)		National Load (MW)	
	Max	Min	Max	Min	Max	Min
July	109.62	35.98	2.66	0.19	302.81	179.44
August	2.13	0.46	19.40	-16.54	429.77	230.90
September	2.91	0.40	20.47	0.09	345.54	179.44

Graph 2.1.2. Domestic demand for Eastern Grid, Western Grid and National using method- 3



The national load pattern for the month of July to September, 2021 calculated using method-3 is attached as **Annexure-II**

### 3. Energy Availability and Requirement for the country

#### 3.1. Energy (MU) consumed by Country

The total energy consumed within Bhutan is computed from the total energy DGPC had sold to BPC including the royalty energy.

Table 3.1.1. Total Energy (MU) consumed

Month	Total Ex-bus (MU)	Total Export/Import (MU)	Total energy sold to BPC (MU)
July	1185.65171209	972.23613700	213.41557509
August	302.39683700	262.33594000	487.98000000
September	1482.12671104	1244.39641819	237.73029284

Graph 3.1.1. Total Energy (MU) consumed

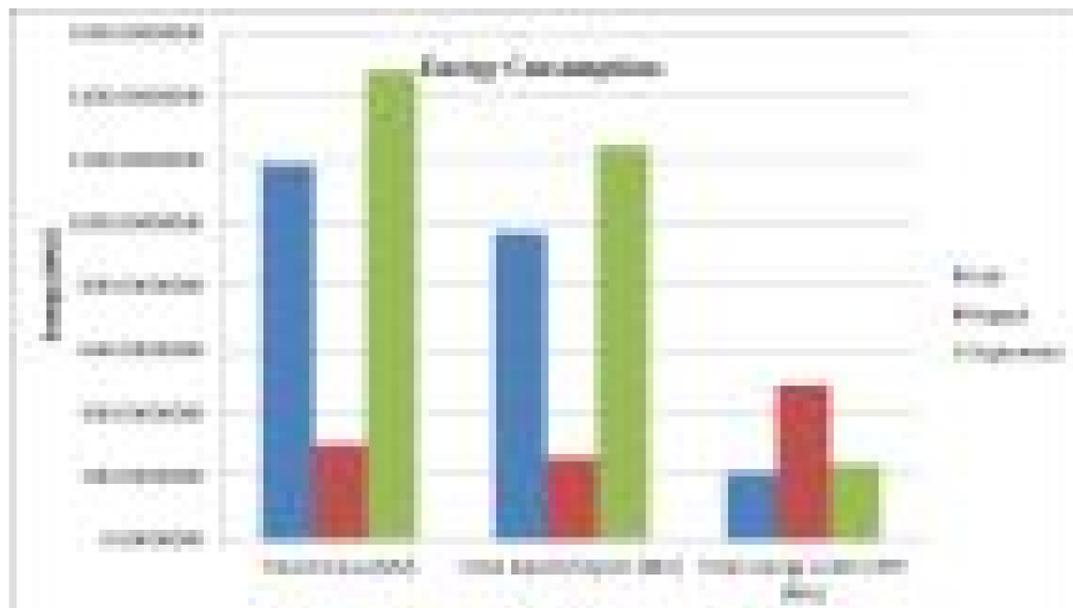
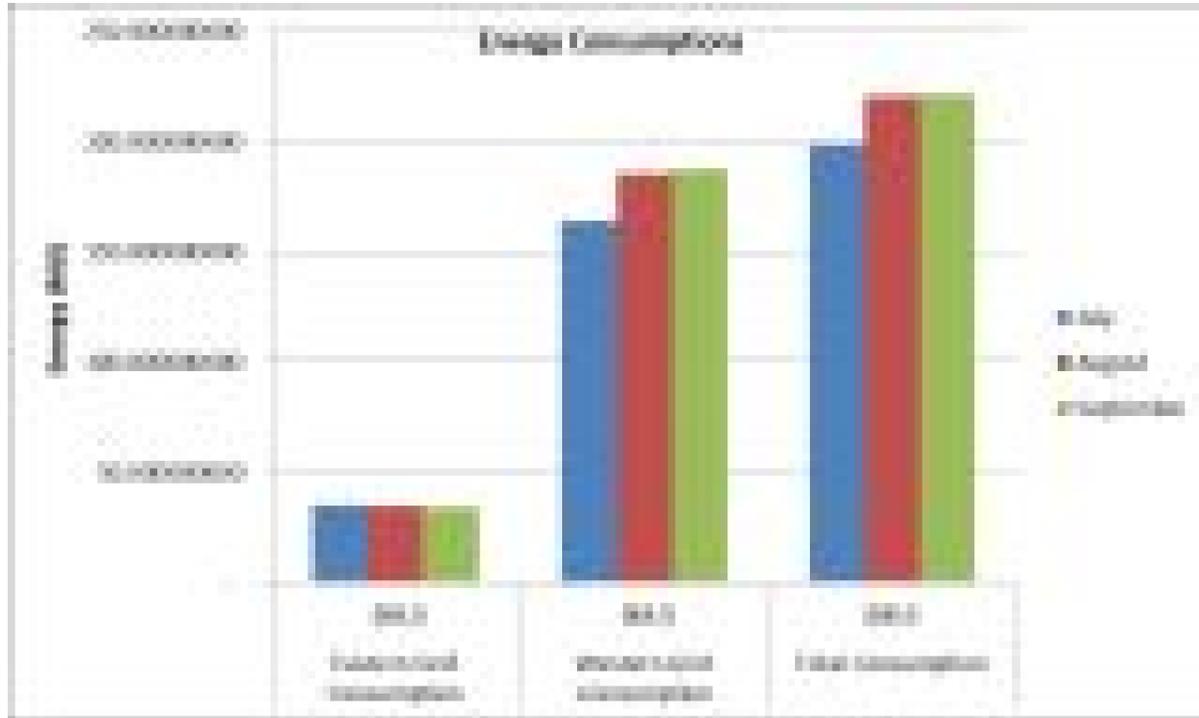




Table 3.1.2. Energy (MU) consumed

Grid	Eastern Grid Consumption	Western Grid Consumption	Total Consumption
Month	(MU)	(MU)	(MU)
July	34.861995000	163.875566	198.7375614
August	34.410691000	185.948798	220.3594893
September	33.73112875	187.109028	220.8401563

Graph 3.1.2. Energy (MU) consumed



4. Performance of generating plants

4.1. Power and Energy Generation

The maximum total generation for the third quarter of year 2021 was 2,544.98 MW in month of August and minimum generation was 590.22 MW in the July month.

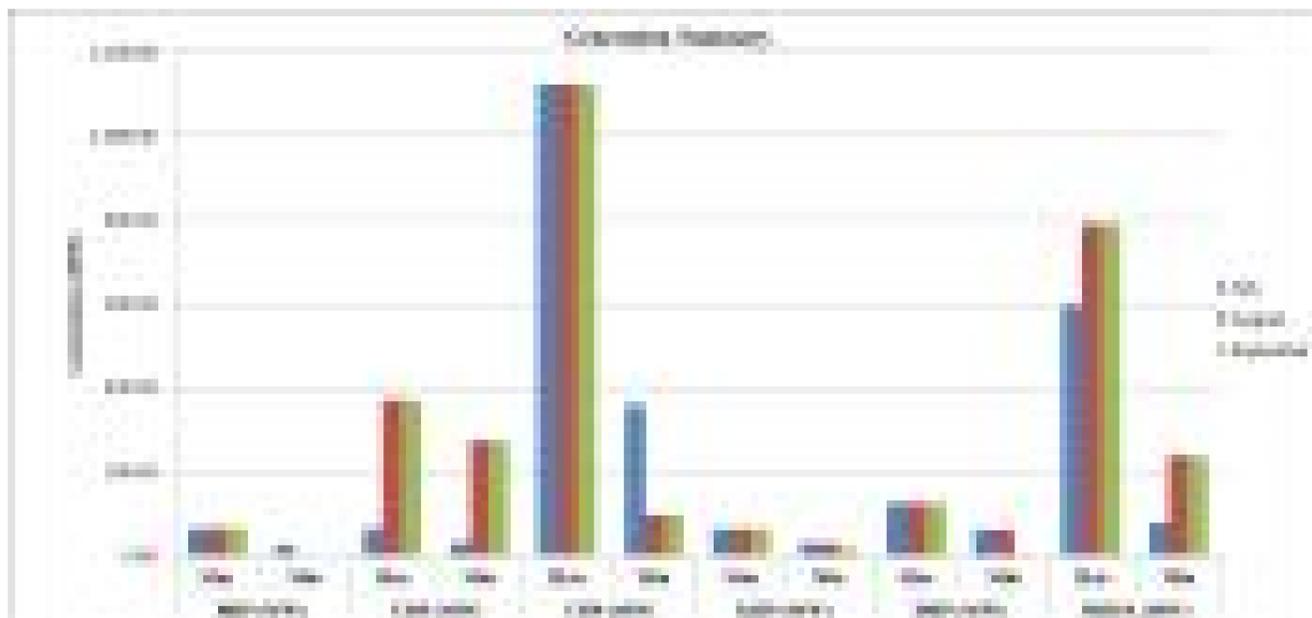
Table: 4.1.1 Summary of maximum and minimum generation by various hydropower plant

Generation By	BHP (MW)		CHP (MW)		THP (MW)		KHP (MW)		DHP (MW)		MHPA (MW)		TOTAL (MW)	
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
July	66.22	24.51	66.00	31.62	1,122.00	360.00	66.00	31.62	127.01	63.18	594.16	79.29	2,041.39	590.22
August	66.55	2.24	371.92	275.68	1,122.00	100.00	66.00	30.23	127.65	63.13	790.86	239.72	2,544.98	711.00
September	66.63	0.00	369.70	275.86	1,122.00	100.00	66.00	16.50	127.01	3	790.56	236.31	2,541.90	631.67

Source: Hydropower Plants (DGPC)

1,200.00

Graph: 4.1.1 Summary of maximum and minimum generation by various hydropower plant





Daily maximum, minimum and average generation by each generating plant for the month of July to September, 2021 is attached as **Annexure-I**.

**4.2.Plant Capacity Factor**

The capacity factor of each generating plant was calculated as below:

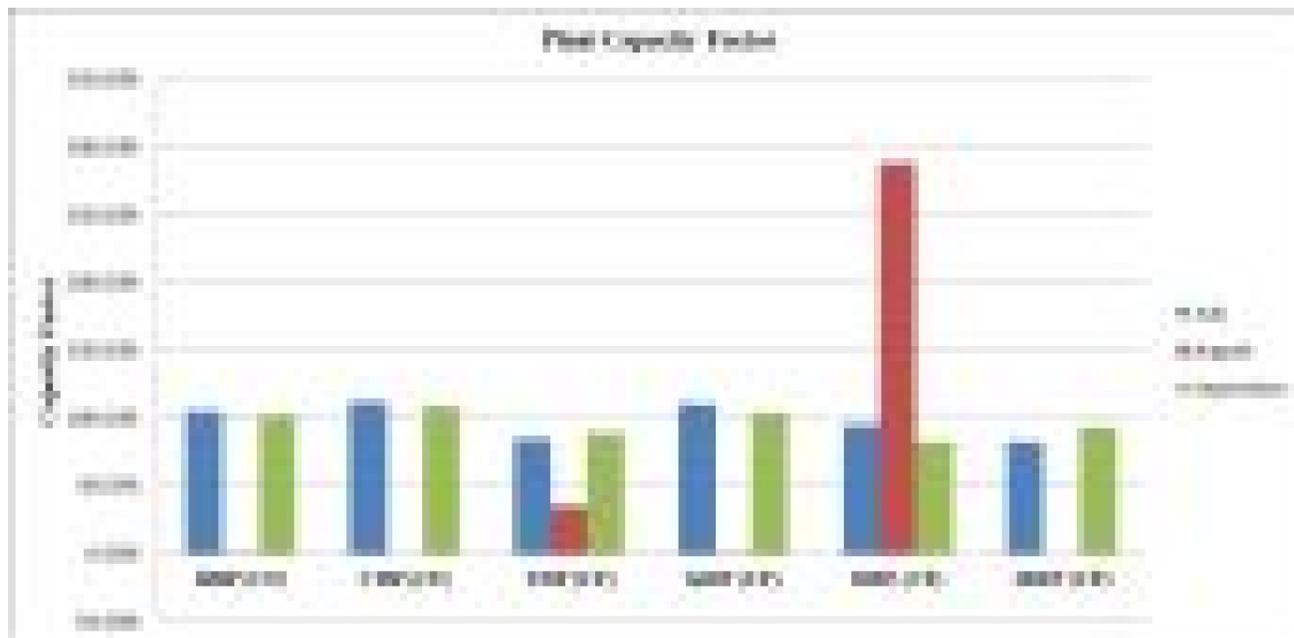
$$Capacity\ factor = \frac{Total\ energy\ plant\ has\ produce\ over\ a\ period}{Total\ energy\ plant\ would\ produce\ when\ operated\ at\ full\ capacity}$$

Table 4.2.1: Total generation and capacity factor of various hydropower plants

Month	BHP (MU)	BHP (CF)	CHP (MU)	CHP (CF)	THP (MU)	THP (CF)	KHP (MU)	KHP (CF)	DHP (MU)	DHP (CF)	MHP (MU)	MHP (CF)
July	48.46503	105.18%	272.07461	112.46%	620.714909	84.52%	47.848794	110.76%	86.63	95.49%	429.48	82.85%
August	0.23481	0.49%	-0.00927	0.00%	263.83273	34.77%	0.140800	0.32%	270.6851	288.75%	0	0.00%
September	47.25006	102.54%	262.78507	108.62%	655.19636	89.22%	45.040594	104.26%	74.64	82.28%	486.86	93.92%

Source: TD, BPC

Graph 4.2.1: Capacity factor of various hydropower plants



**5. Export and Import of Electricity**

Maximum export for the third quarter of year 2021 was 1,114.00 MW in the month of September to Binaguri substation in India. The minimum export recorded was 0.90 MW also to Binaguri substation in India during the month of July.

Table 5.1. Export of electricity to India

Export To	Binaguri (MW)		Birpara (MW)		Salakoti and Rangia (MW)	
	Max	Min	Max	Min	Max	Min
July	355.00	0.90	216.89	68.08	109.41	29.80
August	1,113.00	1.09	361.00	160.46	102.47	9.04
September	1,114.00	1.00	324.80	129.00	99.36	7.56

Graph 5.1. Export of electricity to India

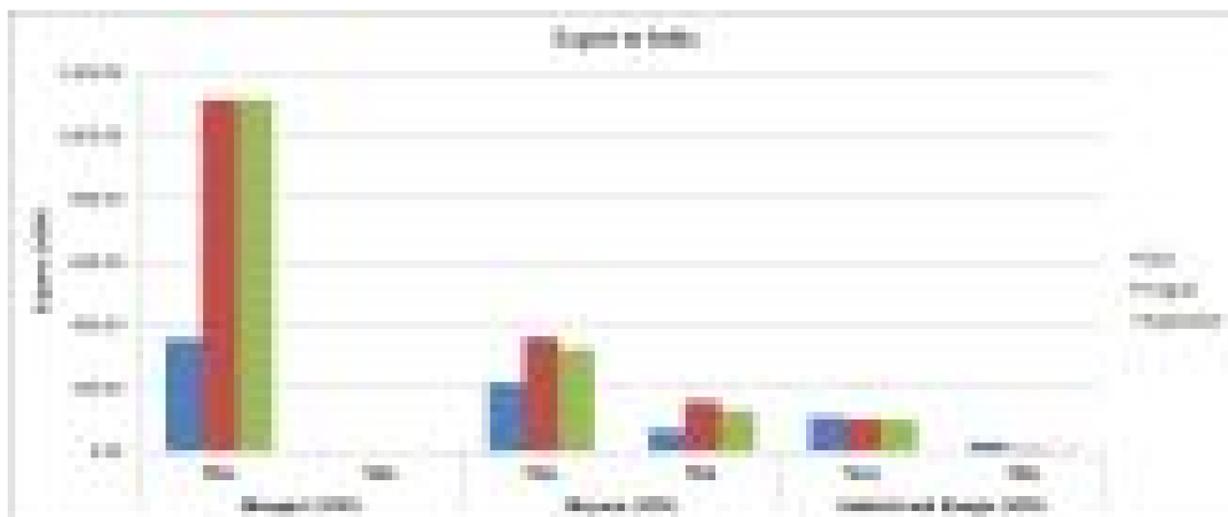


Table 5.2. Import of electricity from India.

Import From	Binaguri (MW)		Birpara (MW)		Salakoti and Rangia (MW)	
	Max	Min	Max	Min	Max	Min
July	188.00	0.30	0.00	0.00	0.00	0.00
August	23.00	0.36	0.00	0.00	0.00	0.00
September	27.00	2.00	0.00	0.00	1.16	0.26

**6. Frequency profile**

The nominal allowed frequency range shall be 50Hz ± 1% in Bhutan. The system is normally managed such that frequency is maintained within operational limit of 49.5 Hz to 50.5 Hz. However, frequency may move outside these limit under faulty condition.

As per the Grid Code 2008, clause 6.4.1 the frequency is classified into three different bands as follows:

- a. Normal state  
The transmission System frequency is within the limit of 49.5Hz to 50.5Hz.
- b. Alert state  
The Transmission System frequency is beyond the normal operating limit but within 49.0Hz to 50.0Hz.
- c. Emergency state  
There is generation deficiency and frequency is below 49.0Hz.

The frequency at 220kV Bus at 220/66/11kV Semtokha substation in the western grid and 132kV Bus at 60MW Kurichhu Hydropower Plant in the eastern grid is considered.

**6.1.Frequency for the month of July, 2021**

Table 6.1.1. Bus Frequency profile of Semtokha Substation

Sl. No.	Operating State	Frequency
1	Normal State	100.00%
2	Alert State	0.00%
3	Emergency State	0.00%
4	Blackout/Other	0.00%

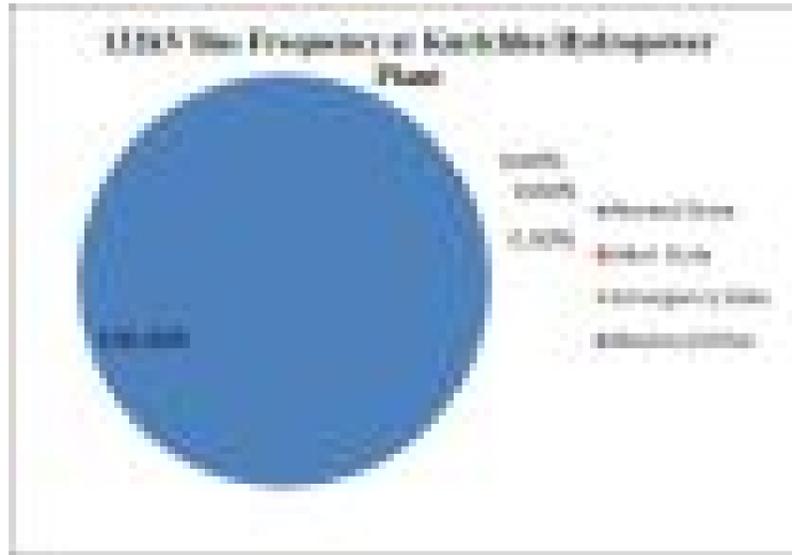
Graph 6.1.1. Bus Frequency of Semtokha Substation



Table 6.1.2. Bus frequency of Kurichhu Hydro Power Plant

Sl. No.	Operating State	Frequency
1	Normal State	100.00%
2	Alert State	0.00%
3	Emergency State	0.00%
4	Blackout/Other	0.00%

Graph 6.1.2. Bus frequency of Kurichhu Hydro Power Plant



In the month of July, 2021, the Western grid has maintained the frequency within the normal operating limit of 100% and also Eastern grid has maintained the normal operating limit of 100%.

**6.2.Frequency for the month of August, 2021**

Table 6.2.1. Bus frequency of Semtokha Substation

Sl. No.	Operating State	Frequency
1	Normal State	100.00%
2	Alert State	0.00%
3	Emergency State	0.00%
4	Blackout/Other	0.00%

Graph 6.2.1. Bus frequency of Semtokha Substation

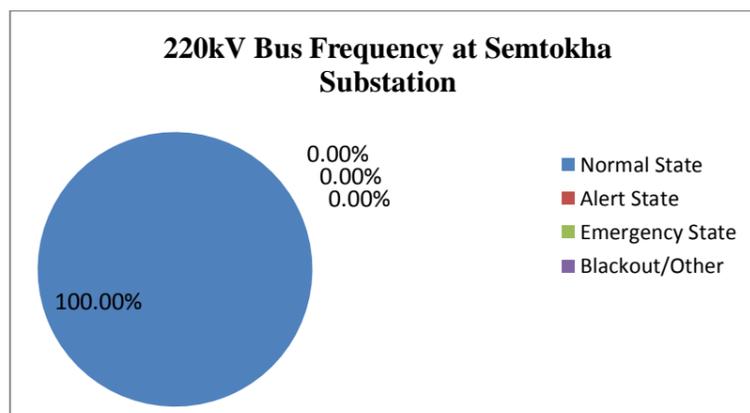


Table 6.2.2. Bus frequency of Kurichhu Hydro Power Plant

Sl. No.	Operating State	Frequency
1	Normal State	99.87%
2	Alert State	0.00%
3	Emergency State	0.13%
4	Blackout/Other	0.00%

Graph 6.2.2. Bus frequency of Kurichhu Hydro Power Plant





In the month of August, 2021, the western grid frequency was maintained at normal operating range of 100% whereas Eastern grid was maintained at 99.87% in normal operating range and deviated 0.13% to emergency state.

**6.3.Frequency for the month of September, 2021**

Table 6.3.1. Bus frequency of Semtokha Substation

Sl. No.	Operating State	Frequency
1	Normal State	96.51%
2	Alert State	0.13%
3	Emergency State	0.00%
4	Blackout/Other	3.36%

Graph 6.3.1. Bus frequency of Semtokha Substation



Table 6.3.2. Bus frequency of Kurichhu Hydro Power Plant

Sl. No.	Operating State	Frequency
1	Normal State	96.77%
2	Alert State	0.00%
3	Emergency State	0.00%
4	Blackout/Other	3.23%

Graph 6.3.2. Bus frequency of Kurichhu Hydro Power Plant



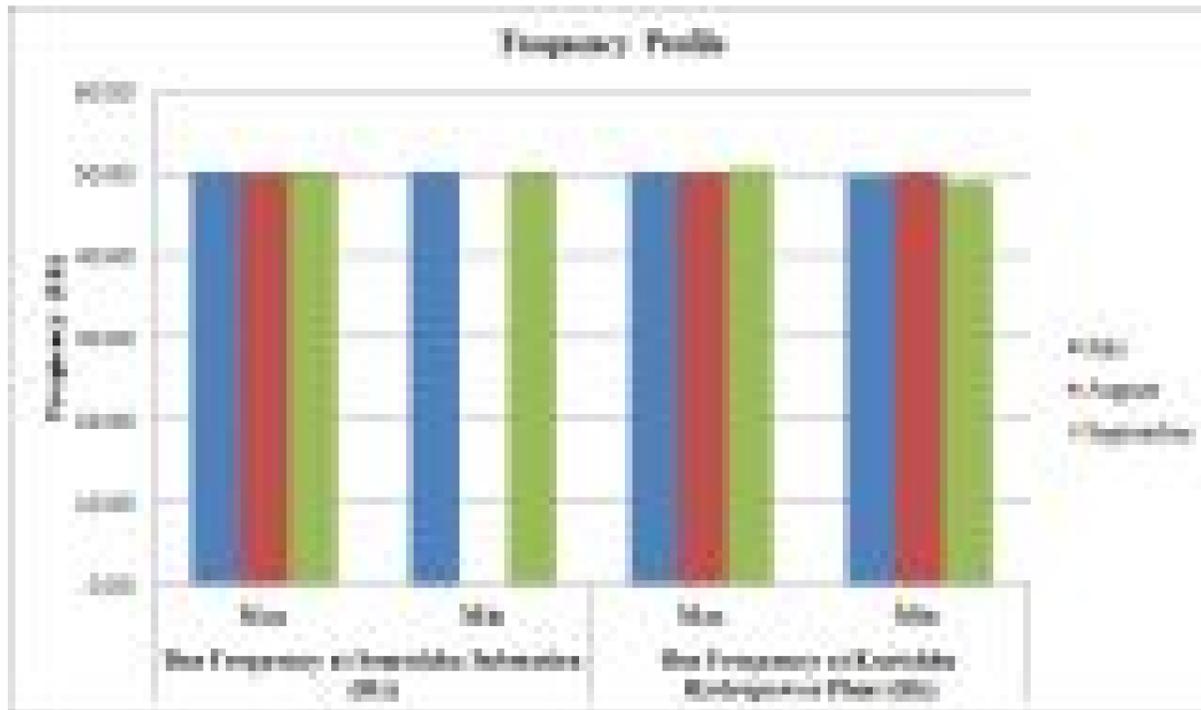
In the month of September, 2021, western grid frequency had maintained at 96.51% within the normal operating range and deviated 0.13% to Alert state and 3.36% to blackout/other state. The eastern also maintain within normal operating range of 96.77 % and deviated 3.23 % to blackout/other state.

**6.4.Frequency Summary for the month of July to September 2021**

Table 6.4.1. Frequency summary for the month of July to September, 2021.

Substation/Plant	Bus Frequency at Semtokha Substation (Hz)		Bus Frequency at Kurichhu Hydropower Plant (Hz)	
	Max	Min	Max	Min
July	50.10	49.80	50.15	49.75
August	50.00	0.00	50.15	49.78
September	50.00	49.80	50.50	48.90

Graph 6.4.1. Frequency summary for the month of July to September, 2021



Daily maximum, minimum and average Frequency of Malbase substation in western grid and Kurichhu Hydro Power Plant in eastern grid for the month of July to September, 2021 is attached as **Annexure-III**

**7. Voltage Profile of selected substation**

As per the Grid Code 2008, clause 6.4.1 the voltage at all connection point is classified into three different bands as follows:

- Normal State**  
The voltage at all connection points are within the limits of 0.95 times and 1.05 times of the normal values
- Alert State**  
The voltage at all connection points are outside the normal limit but within the limits of 0.9 times and 1.1 times of the nominal values.
- Emergency State**  
Transmission system voltages are outside the limit of 0.9 times and 1.1 times of nominal values.

Due to the location of 400/22/66/11kV Malbase substation in western grid and 132/33/11kV Nangkhohr substation in the eastern grid, the voltage profile of these substations are considered.

**7.1.Voltage profile for the July, 2021**

Table 7.1.1. Voltage Profile for 400/220/66kV Malbase Substation

Sl. No.	Operating State	400kV Bus Voltage	220kV Bus Voltage	66kV Bus Voltage
1	Normal State	98.12%	100.00%	100.00%
2	Alert State	1.61%	0.00%	0.00%
3	Emergency State	0.27%	0.00%	0.00%
4	Blackout/Other	0.00%	0.00%	0.00%

Graph 7.1.1.1. Voltage Profile for 400/220/66kV Malbase Substation

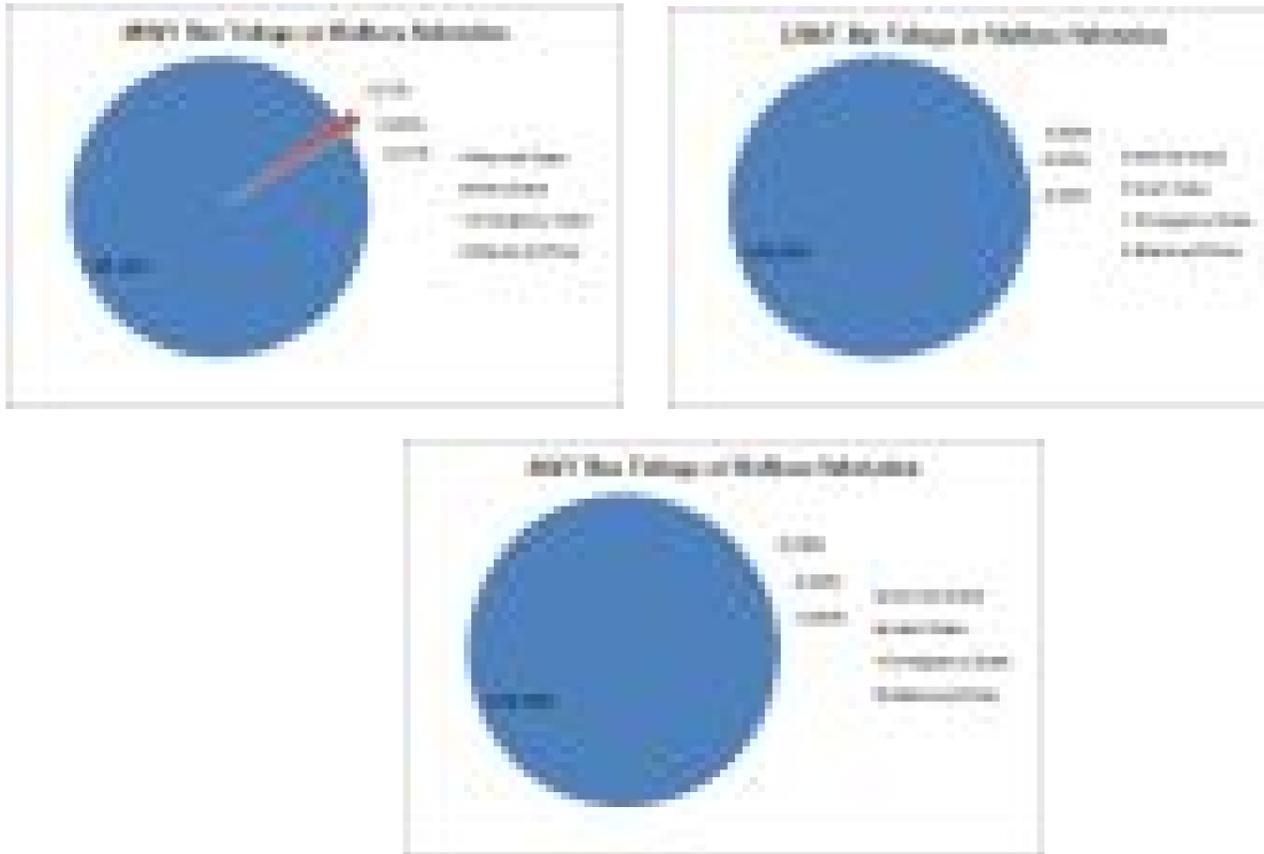


Table 7.1.2. Voltage Profile of 220/66/11kV Semtokha Substation

Sl. No.	Operating State	220kV Bus Voltage	66kV Bus Voltage
1	Normal State	99.73%	99.87%
2	Alert State	0.00%	0.00%
3	Emergency State	0.27%	0.13%
4	Blackout/Other	0.00%	0.00%

Graph 7.1.2. Voltage Profile of 220/66/11kV Semtokha Substation

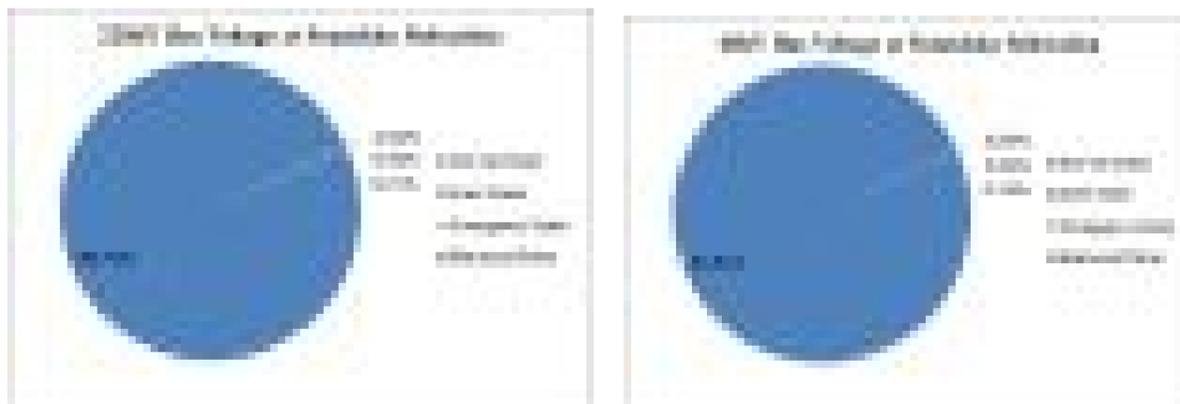


Table 7.1.3. Voltage Profile of 132/33/11kV Nangkhor Substation

Sl. No.	Operating State	132kV Bus Voltage
1	Normal State	100.00%
2	Alert State	0.00%
3	Emergency State	0.00%
4	Blackout/Other	0.00%

Graph 7.1.3. Voltage Profile of 132/33/11kV Nangkor Substation



**7.2. Voltage Profile for month of August, 2021**

Table 7.2.1. Voltage Profile for 400/220/66kV Malbase Substation

Sl. No.	Operating State	400kV Bus Voltage	220kV Bus Voltage	66kV Bus Voltage
1	Normal State	100.00%	100.00%	100.00%
2	Alert State	0.00%	0.00%	0.00%
3	Emergency State	0.00%	0.00%	0.00%
4	Blackout/Other	0.00%	0.00%	0.00%

Graph 7.2.1. Voltage Profile for 400/220/66kV Malbase Substation

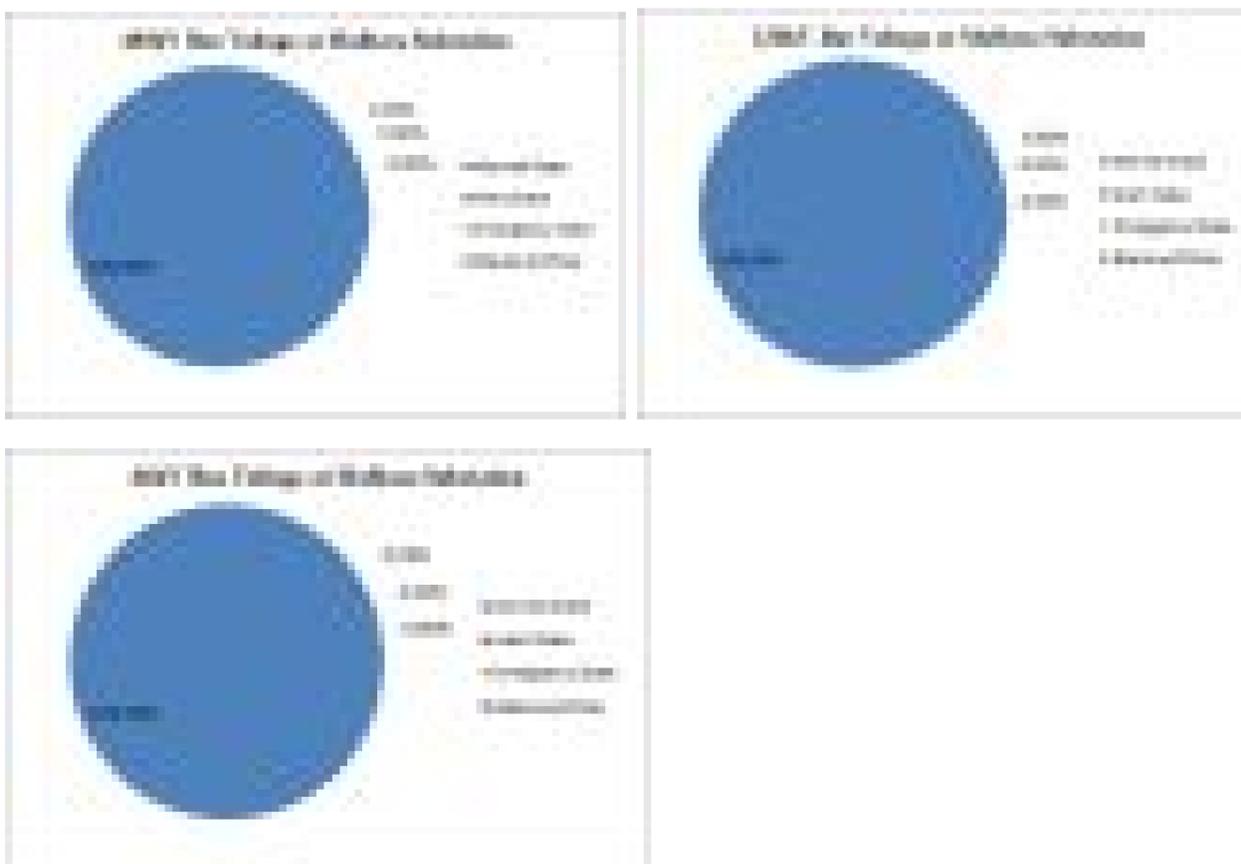


Table 7.2.2. Voltage Profile of 220/66/11kV Semtokha Substation

Sl. No.	Operating State	220kV Bus Voltage	66kV Bus Voltage
1	Normal State	99.87%	99.87%
2	Alert State	0.00%	0.00%
3	Emergency State	0.13%	0.13%
4	Blackout/Other	0.00%	0.00%

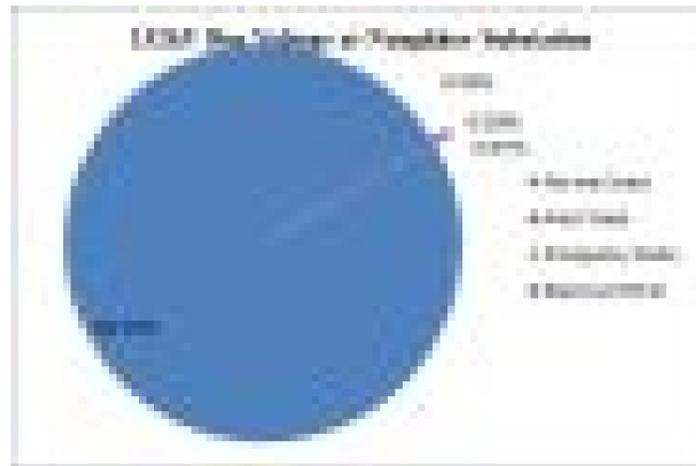
Graph 7.2.2. Voltage Profile of 220/66/11kV Semtokha Substation



Table 7.2.3. Voltage Profile of 132/33/11kV Nangkor Substation

SL No.	Operating State	132kV Bus Voltage
1	Normal State	99.33%
2	Alert State	0.00%
3	Emergency State	0.00%
4	Blackout/Other	0.67%

Graph 7.2.3. Voltage Profile of 132/33/11kV Nangkor Substation



**7.3. Voltage Profile for the month of September, 2021**

Table 7.3.1. Voltage Profile for 400/220/66kV Malbase Substation

SL No.	Operating State	400kV Bus Voltage	220kV Bus Voltage	66kV Bus Voltage
1	Normal State	96.77%	96.77%	96.77%
2	Alert State	0.00%	0.00%	0.00%
3	Emergency State	0.00%	0.00%	0.00%
4	Blackout/Other	3.23%	3.23%	3.23%

Graph 7.3.1. Voltage Profile for 400/220/66kV Malbase Substation





Table 7.3.2. Voltage Profile of 220/66/11kV Semtokha Substation

Sl. No.	Operating State	220kV Bus Voltage	66kV Bus Voltage
1	Normal State	96.64%	96.64%
2	Alert State	0.00%	0.00%
3	Emergency State	0.00%	0.00%
4	Blackout/Other	3.36%	3.36%

Graph 7.3.2. Voltage Profile of 220/66/11kV Semtokha Substation



Table 7.3.3. Voltage Profile of 132/33/11kV Nangkhor Substation

Sl. No.	Operating State	132kV Bus Voltage
1	Normal State	92.74%
2	Alert State	0.13%
3	Emergency State	0.00%
4	Blackout/Other	7.12%

Graph 7.3.3. Voltage Profile of 132/33/11kV Nangkhor Substation

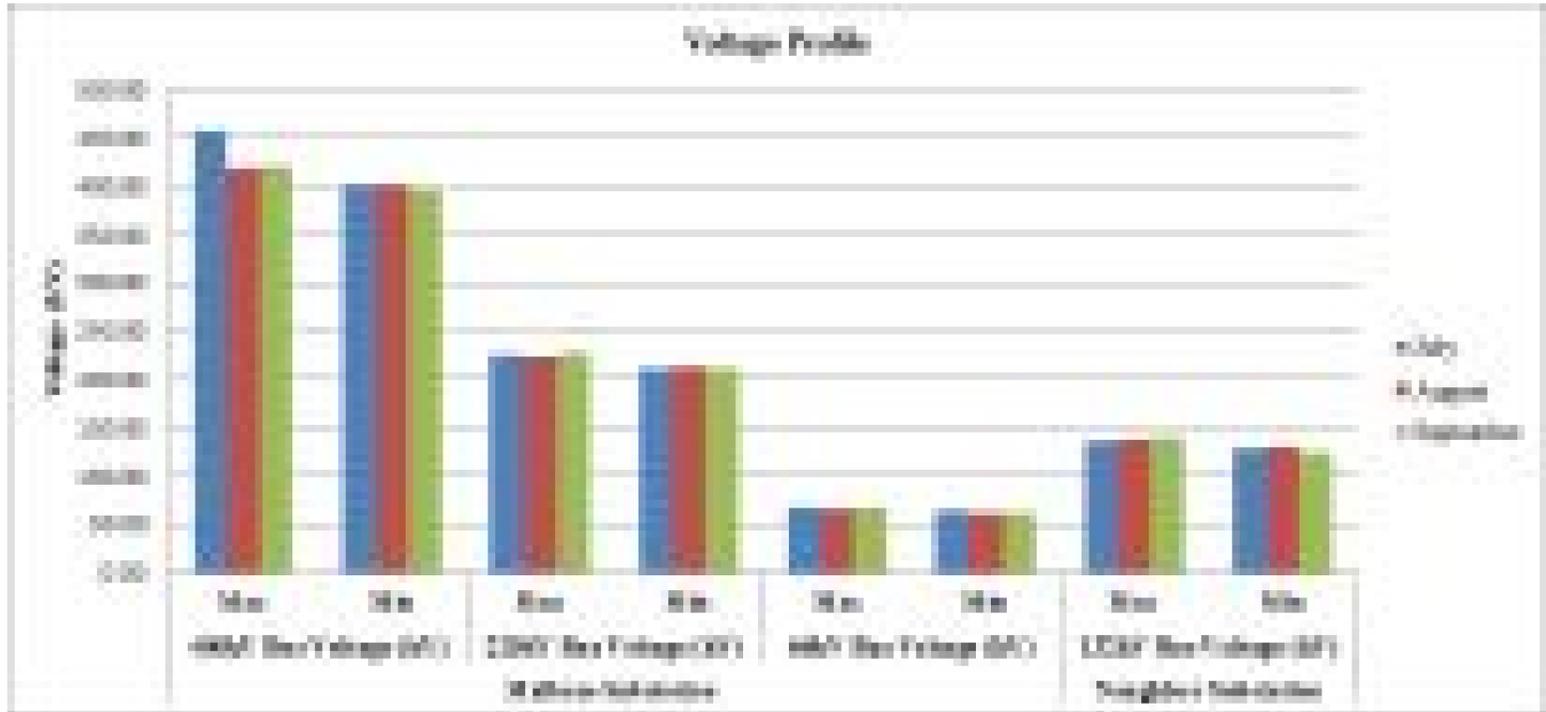


7.4.Voltage Summary for the Month of July to September, 2021

Table 7.4.1. Voltage Summary for the month of July to September, 2021

Substation	Malbase Substation						Nangkhor Substation	
	400kV Bus Voltage (kV)		220kV Bus Voltage (kV)		66kV Bus Voltage (kV)		132kV Bus Voltage (kV)	
Month	Max	Min	Max	Min	Max	Min	Max	Min
July	456.50	398.50	225.50	212.00	68.00	64.00	136.11	127.79
August	419.00	401.50	223.50	213.00	66.00	63.00	136.90	129.66
September	421.00	396.14	226.00	210.94	67.00	62.96	139.22	123.94

Graph 7.4.1. Voltage Summary for the month of July to September, 2021



Daily maximum, minimum and average bus voltage of Malbase substation in western grid and Nangkhor substation in eastern grid for the month of July to September, 2021 is attached as **Annexure-IV**

**8. Major Outages of Feeders and Equipment**

The transmission lines and equipment which were shut down for annual maintenance and hand/force trip are not considered in the report.

**8.1. Major Outages in Eastern Grid**

It had been observed that there was multiple major tripping occurred during the third quarter of the year compare to the previous quarter. Generally, all the tripping occurred are of transient in nature but restoration time ranges from 8hrs to 98 hrs. The major tripping being 132kV Nanglam-Tingtibi feeder which tripped for 97hrs due to earth fault(R-PH to ground). The feeders and equipment outages for the Eastern grid is attached as **Annexure-V**.

**8.2. Major Outages in Western Grid**

It had been observed that there was multiple tripping occurred and three major tripping during the third quarter of the year, the three major trip accrued at 66kV Pasakha-I, Pasakha-II and pasakha-IV as there was inter tripped as 400kV snapped and touched on the 66kV multicircuit feeder going towards the industrial area which lasted for 138hrs.

The detail tripping report of any element is compiled and circulated to relevant stakeholder every month.

The feeders and equipment outages for the Western grid is attached as **Annexure-VI**.

**9. Annexures**

**Annexure-I**

Table: Generation of July, 2021







Table: Generation for the month of September, 2021

Sl. No.	Plant Name	Capacity (MW)	Actual Generation (MWh)	Availability (%)
1	Barisal	1000	100000	100
2	Chattogram	1000	100000	100
3	Dhaka	1000	100000	100
4	Feni	1000	100000	100
5	Gasbari	1000	100000	100
6	Govindpur	1000	100000	100
7	Hazrat Ali	1000	100000	100
8	Jessore	1000	100000	100
9	Karnaphuli	1000	100000	100
10	Kishoreganj	1000	100000	100
11	Lakshadweep	1000	100000	100
12	Moulvibazar	1000	100000	100
13	Narayanganj	1000	100000	100
14	Shahabuddin	1000	100000	100
15	Tongi	1000	100000	100
16	Uttara	1000	100000	100
17	Wazirpur	1000	100000	100
18	Yamuna	1000	100000	100
19	Zakaria	1000	100000	100
20	Other	1000	100000	100
21	Total	20000	2000000	100

Graph: Generation for the month of September, 2021

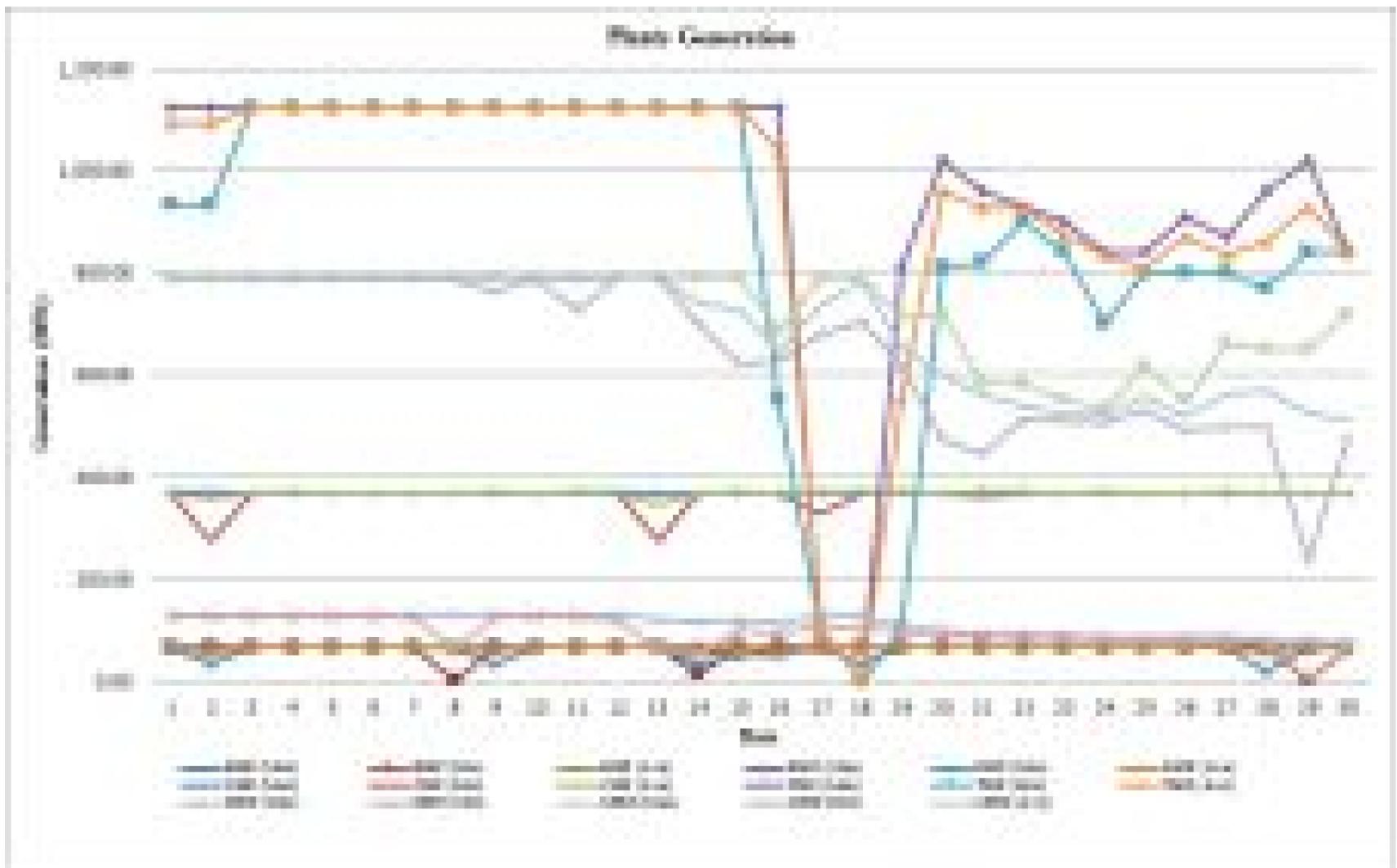




Table: National demand for July, 2021

Graph: National Demand for July, 2021

Annexure-II

July-21	Min	Max	Avg
0:00			
1:00			
2:00			
3:00			
4:00			
5:00			
6:00			
7:00			
8:00			
9:00			
10:00			
11:00			
12:00			
13:00			
14:00			
15:00			
16:00			
17:00			
18:00			
19:00			
20:00			
21:00			
22:00			
23:00			
	762.17	128.16	

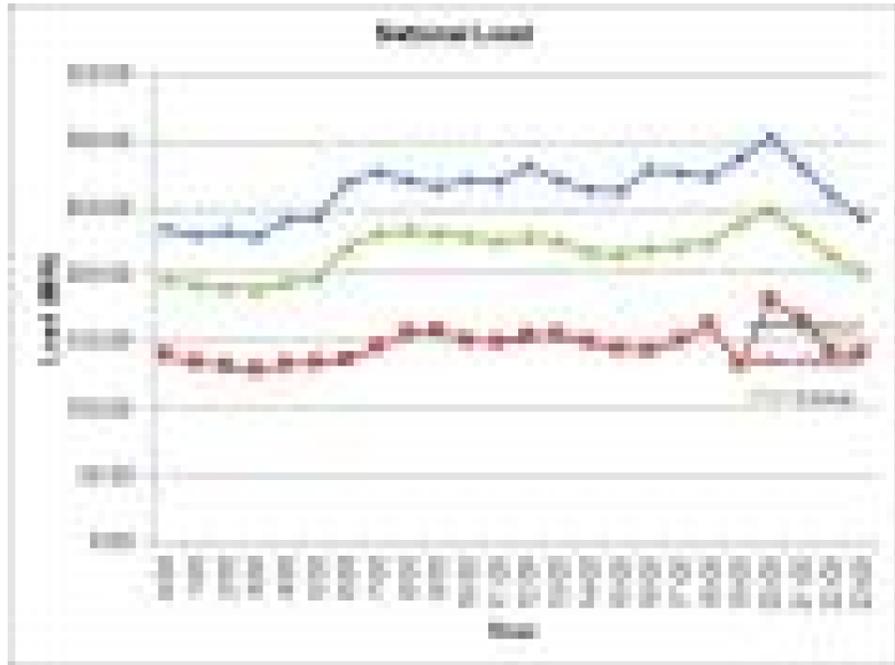


Table: National Demand for August, 2021

Graph: National Demand for August, 2021

Aug-21	Min	Max	Avg
0:00			
1:00			
2:00			
3:00			
4:00			
5:00			
6:00			
7:00			
8:00			
9:00			
10:00			
11:00			
12:00			
13:00			
14:00			
15:00			
16:00			
17:00			
18:00			
19:00			
20:00			
21:00			
22:00			
23:00			
	479.17	268.96	

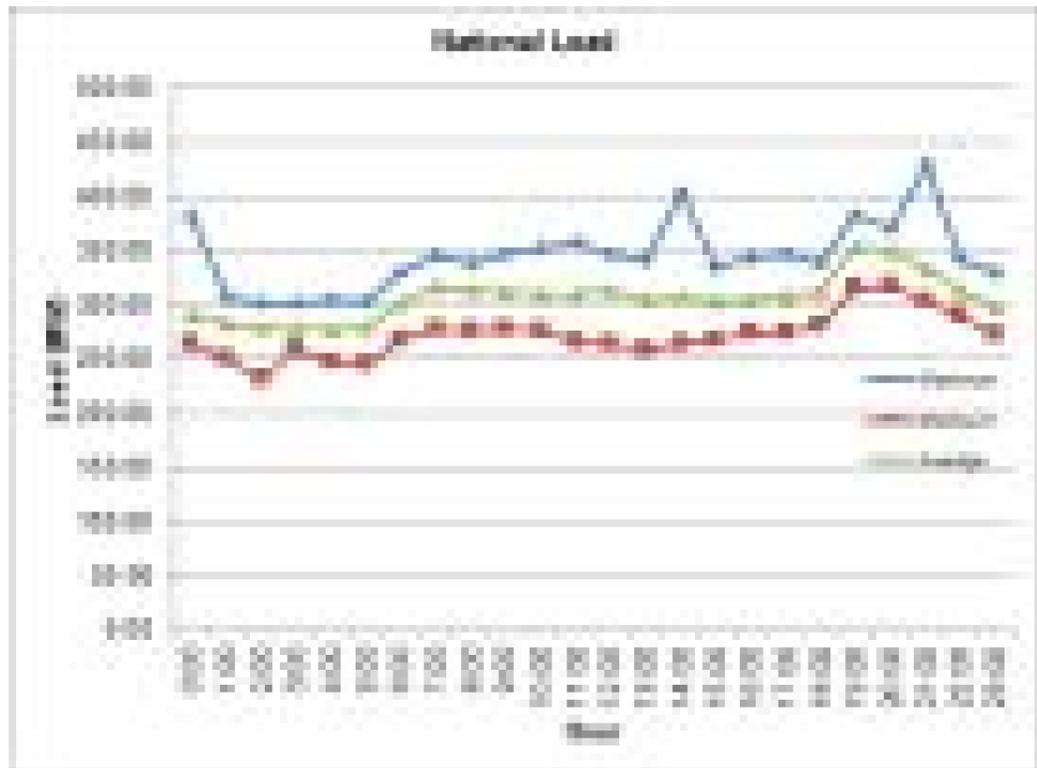
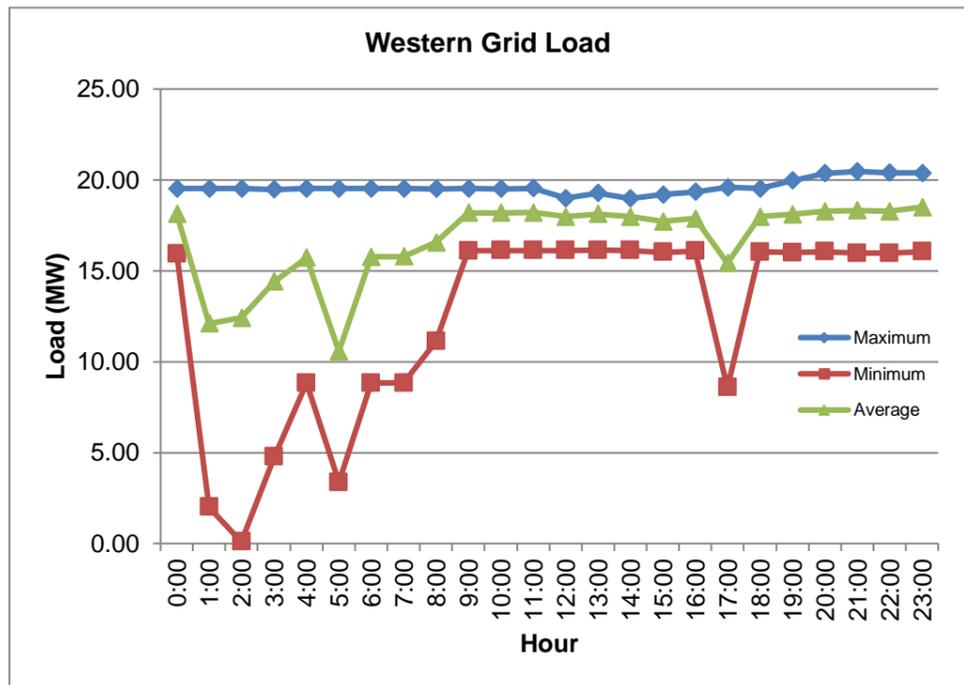




Table: National Demand for September, 2021

Graph: National Demand for September, 2021

Hour	Max	Min	Avg
0:00	18.50	12.00	15.25
1:00	18.50	11.00	14.75
2:00	18.50	10.00	14.25
3:00	18.50	11.00	14.75
4:00	18.50	12.00	15.25
5:00	18.50	13.00	15.75
6:00	18.50	14.00	16.25
7:00	18.50	14.00	16.25
8:00	18.50	15.00	16.75
9:00	18.50	16.00	17.25
10:00	18.50	16.00	17.25
11:00	18.50	16.00	17.25
12:00	18.50	16.00	17.25
13:00	18.50	16.00	17.25
14:00	18.50	16.00	17.25
15:00	18.50	16.00	17.25
16:00	18.50	16.00	17.25
17:00	18.50	16.00	17.25
18:00	18.50	16.00	17.25
19:00	18.50	16.00	17.25
20:00	18.50	16.00	17.25
21:00	18.50	16.00	17.25
22:00	18.50	16.00	17.25
23:00	18.50	16.00	17.25
<b>Total</b>	<b>20.41</b>	<b>16.00</b>	<b>17.25</b>



Annexure-III

Table: Daily maximum, minimum and average frequency for the month of July, 2021

Date	Daily Frequency of Maximum			Daily Frequency of Minimum		
	Max	Min	Avg	Max	Min	Avg
01/07	18.50	12.00	15.25	16.00	2.00	12.00
02/07	18.50	11.00	14.75	16.00	2.00	12.00
03/07	18.50	10.00	14.25	16.00	2.00	12.00
04/07	18.50	11.00	14.75	16.00	5.00	14.00
05/07	18.50	12.00	15.25	16.00	9.00	15.00
06/07	18.50	13.00	15.75	16.00	3.00	10.00
07/07	18.50	14.00	16.25	16.00	9.00	16.00
08/07	18.50	14.00	16.25	16.00	9.00	16.00
09/07	18.50	15.00	16.75	16.00	11.00	17.00
10/07	18.50	16.00	17.25	16.00	16.00	18.50
11/07	18.50	16.00	17.25	16.00	16.00	18.50
12/07	18.50	16.00	17.25	16.00	16.00	18.50
13/07	18.50	16.00	17.25	16.00	16.00	18.50
14/07	18.50	16.00	17.25	16.00	16.00	18.50
15/07	18.50	16.00	17.25	16.00	16.00	18.50
16/07	18.50	16.00	17.25	16.00	16.00	18.50
17/07	18.50	16.00	17.25	16.00	16.00	18.50
18/07	18.50	16.00	17.25	16.00	16.00	18.50
19/07	18.50	16.00	17.25	16.00	16.00	18.50
20/07	18.50	16.00	17.25	16.00	16.00	18.50
21/07	18.50	16.00	17.25	16.00	16.00	18.50
22/07	18.50	16.00	17.25	16.00	16.00	18.50
23/07	18.50	16.00	17.25	16.00	16.00	18.50
<b>Total</b>	<b>20.41</b>	<b>16.00</b>	<b>17.25</b>	<b>16.00</b>	<b>16.00</b>	<b>17.25</b>



Graph: Daily maximum, minimum and average frequency for the month of July, 2021

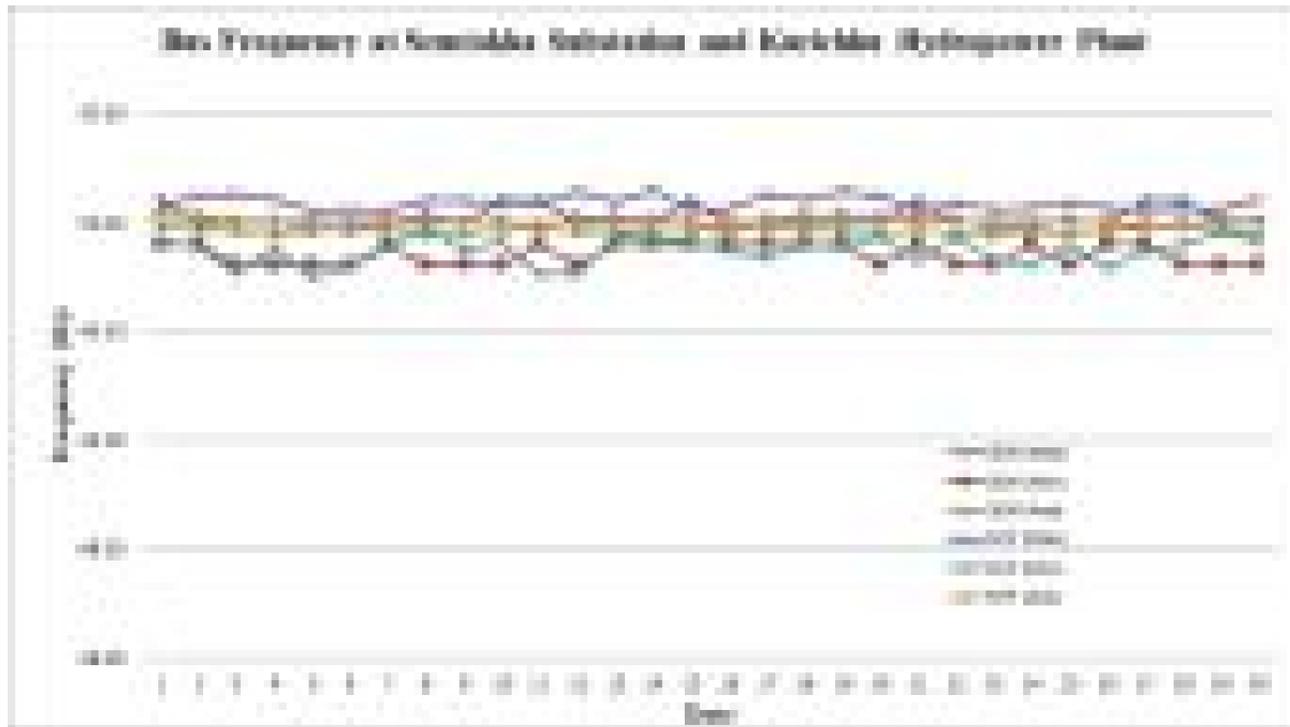


Table: Daily maximum, minimum and average frequency for the month of August, 2021

Date	Max Frequency at Sumbidha Substation (Hz)			Min Frequency at Karkida Hydroplant (Hz)		
	Max	Min	Avg	Max	Min	Avg
01/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
02/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
03/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
04/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
05/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
06/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
07/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
08/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
09/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
10/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
11/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
12/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
13/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
14/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
15/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
16/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
17/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
18/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
19/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
20/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
21/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
22/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
23/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
24/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
25/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
26/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
27/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
28/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
29/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
30/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
31/08/2021	50.00	49.99	50.00	50.00	49.99	50.00
<b>Total</b>	<b>50.00</b>	<b>49.99</b>	<b>50.00</b>	<b>50.00</b>	<b>49.99</b>	<b>50.00</b>



Graph: Daily maximum, minimum and average frequency for the month of August, 2021

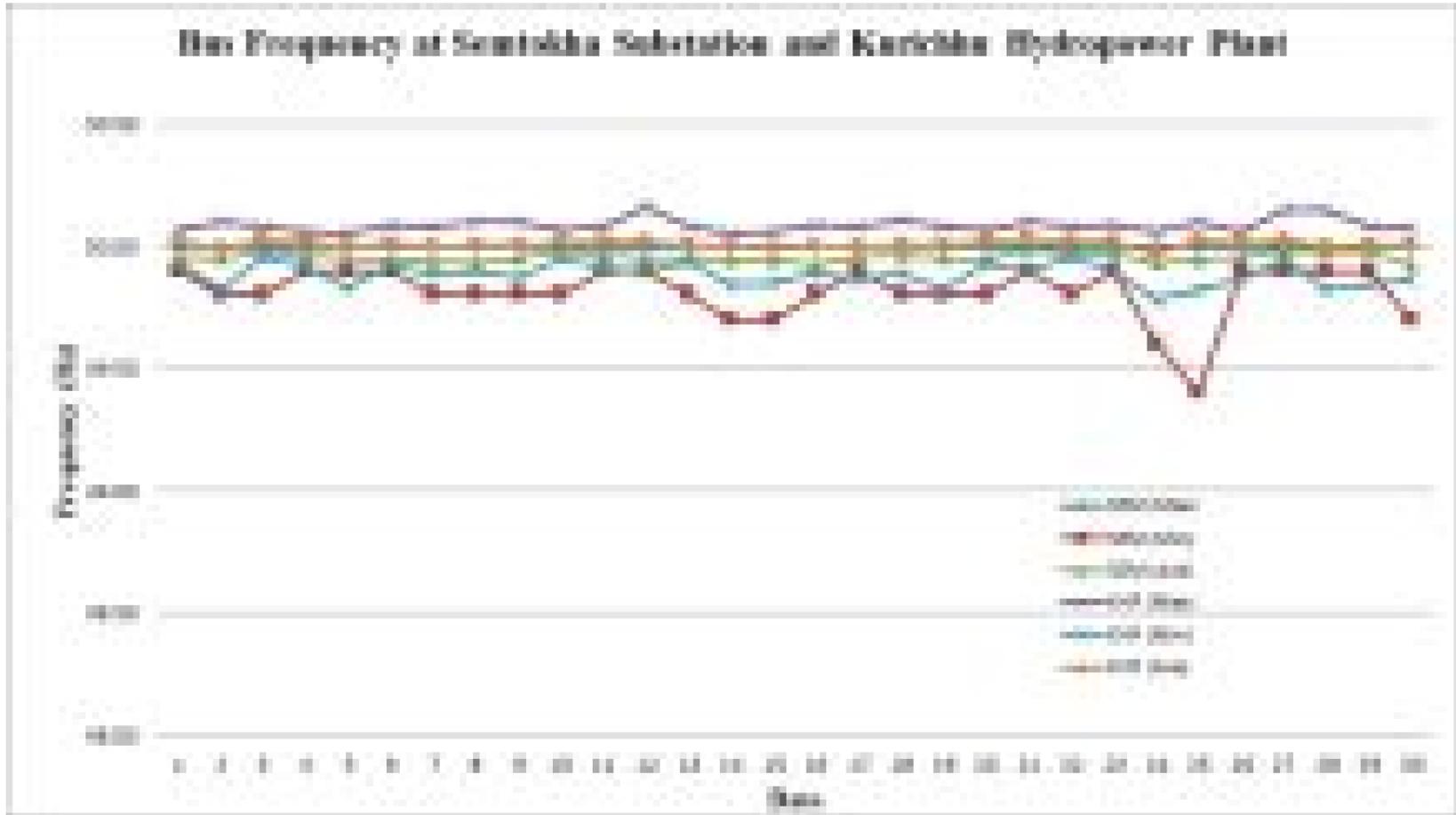


Table: Daily maximum, minimum and average frequency for the month of September, 2021

Date	Max Frequency of Faramakha Substation			Max Frequency of Karkhah Hydropower Plant		
	Max	Min	Avg	Max	Min	Avg
01	50.00	49.99	50.00	50.00	49.99	50.00
02	50.00	49.99	50.00	50.00	49.99	50.00
03	50.00	49.99	50.00	50.00	49.99	50.00
04	50.00	49.99	50.00	50.00	49.99	50.00
05	50.00	49.99	50.00	50.00	49.99	50.00
06	50.00	49.99	50.00	50.00	49.99	50.00
07	50.00	49.99	50.00	50.00	49.99	50.00
08	50.00	49.99	50.00	50.00	49.99	50.00
09	50.00	49.99	50.00	50.00	49.99	50.00
10	50.00	49.99	50.00	50.00	49.99	50.00
11	50.00	49.99	50.00	50.00	49.99	50.00
12	50.00	49.99	50.00	50.00	49.99	50.00
13	50.00	49.99	50.00	50.00	49.99	50.00
14	50.00	49.99	50.00	50.00	49.99	50.00
15	50.00	49.99	50.00	50.00	49.99	50.00
16	50.00	49.99	50.00	50.00	49.99	50.00
17	50.00	49.99	50.00	50.00	49.99	50.00
18	50.00	49.99	50.00	50.00	49.99	50.00
19	50.00	49.99	50.00	50.00	49.99	50.00
20	50.00	49.99	50.00	50.00	49.99	50.00
21	50.00	49.99	50.00	50.00	49.99	50.00
22	50.00	49.99	50.00	50.00	49.99	50.00
23	50.00	49.99	50.00	50.00	49.99	50.00
24	50.00	49.99	50.00	50.00	49.99	50.00
25	50.00	49.99	50.00	50.00	49.99	50.00
26	50.00	49.99	50.00	50.00	49.99	50.00
27	50.00	49.99	50.00	50.00	49.99	50.00
28	50.00	49.99	50.00	50.00	49.99	50.00
29	50.00	49.99	50.00	50.00	49.99	50.00
30	50.00	49.99	50.00	50.00	49.99	50.00
31	50.00	49.99	50.00	50.00	49.99	50.00
<b>Total</b>	<b>50.00</b>	<b>49.99</b>	<b>50.00</b>	<b>50.00</b>	<b>49.99</b>	<b>50.00</b>



Graph: Daily maximum, minimum and average frequency for the month of September 2021



Annexure-IV

Table: Daily maximum, minimum and average Voltage for the month of July, 2021

Date	Samtse Substation						Karichha Substation		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
01/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
02/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
03/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
04/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
05/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
06/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
07/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
08/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
09/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
10/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
11/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
12/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
13/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
14/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
15/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
16/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
17/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
18/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
19/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
20/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
21/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
22/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
23/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
24/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
25/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
26/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
27/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
28/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
29/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
30/07	10.00	9.95	9.98	10.00	9.95	9.98	10.00	9.95	9.98
<b>Total</b>	<b>10.00</b>	<b>9.95</b>	<b>9.98</b>	<b>10.00</b>	<b>9.95</b>	<b>9.98</b>	<b>10.00</b>	<b>9.95</b>	<b>9.98</b>



Graph: Daily maximum, minimum and average Voltage for the month of July, 2021

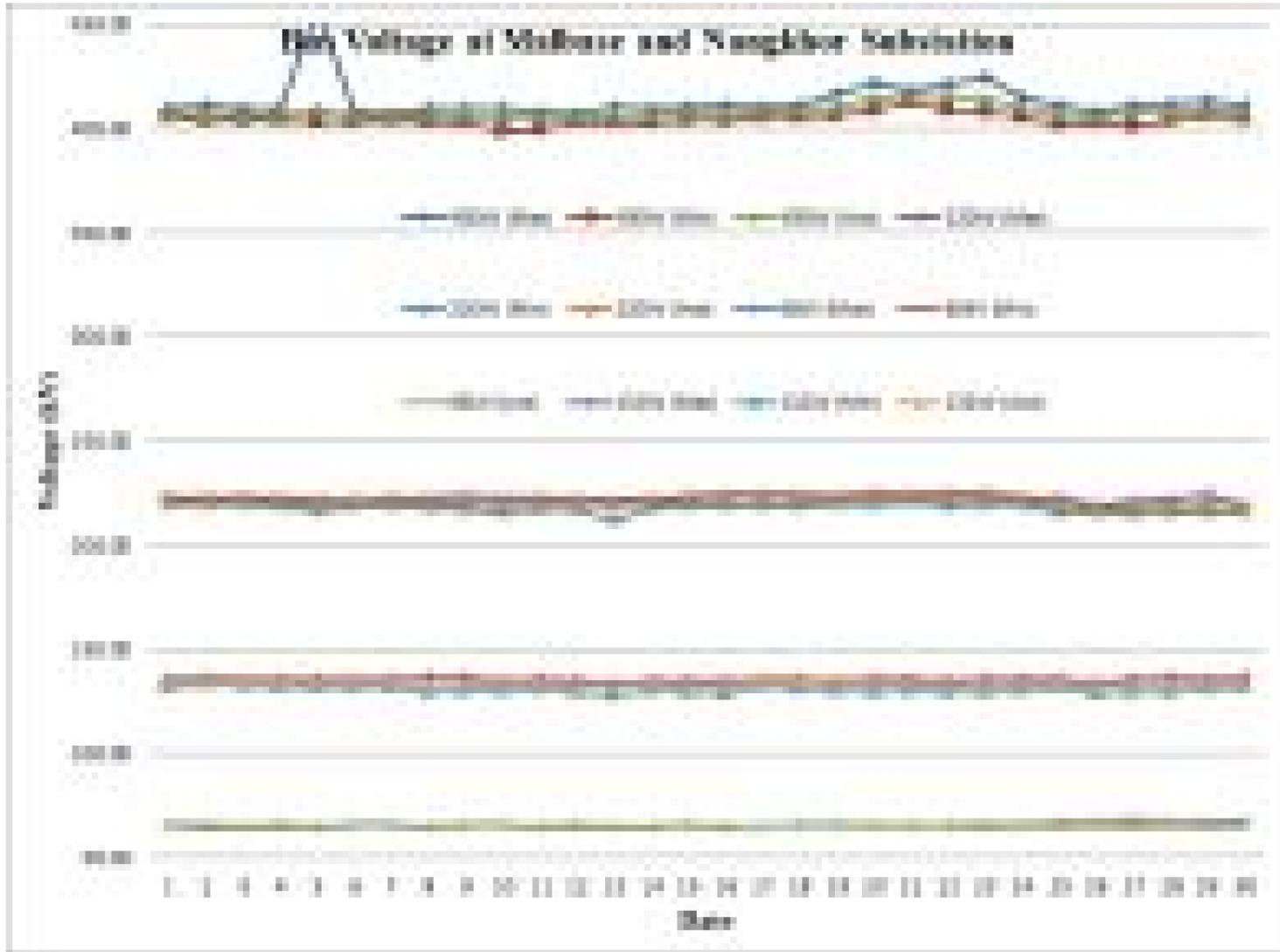


Table: Daily maximum, minimum and average Voltage for the month of August, 2021

Date	Malbase Substation									Naugla Substation		
	220kV Bus Voltage (kV)			132kV Bus Voltage (kV)			66kV Bus Voltage (kV)			33kV Bus Voltage (kV)		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
1/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
2/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
3/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
4/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
5/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
6/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
7/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
8/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
9/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
10/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
11/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
12/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
13/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
14/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
15/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
16/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
17/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
18/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
19/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
20/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
21/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
22/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
23/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
24/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
25/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
26/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
27/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
28/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
29/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
30/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
31/8	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50	698.50
<b>Total</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>
<b>Avg</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>	<b>698.50</b>



Graph: Daily maximum, minimum and average Voltage for the month of August, 2021

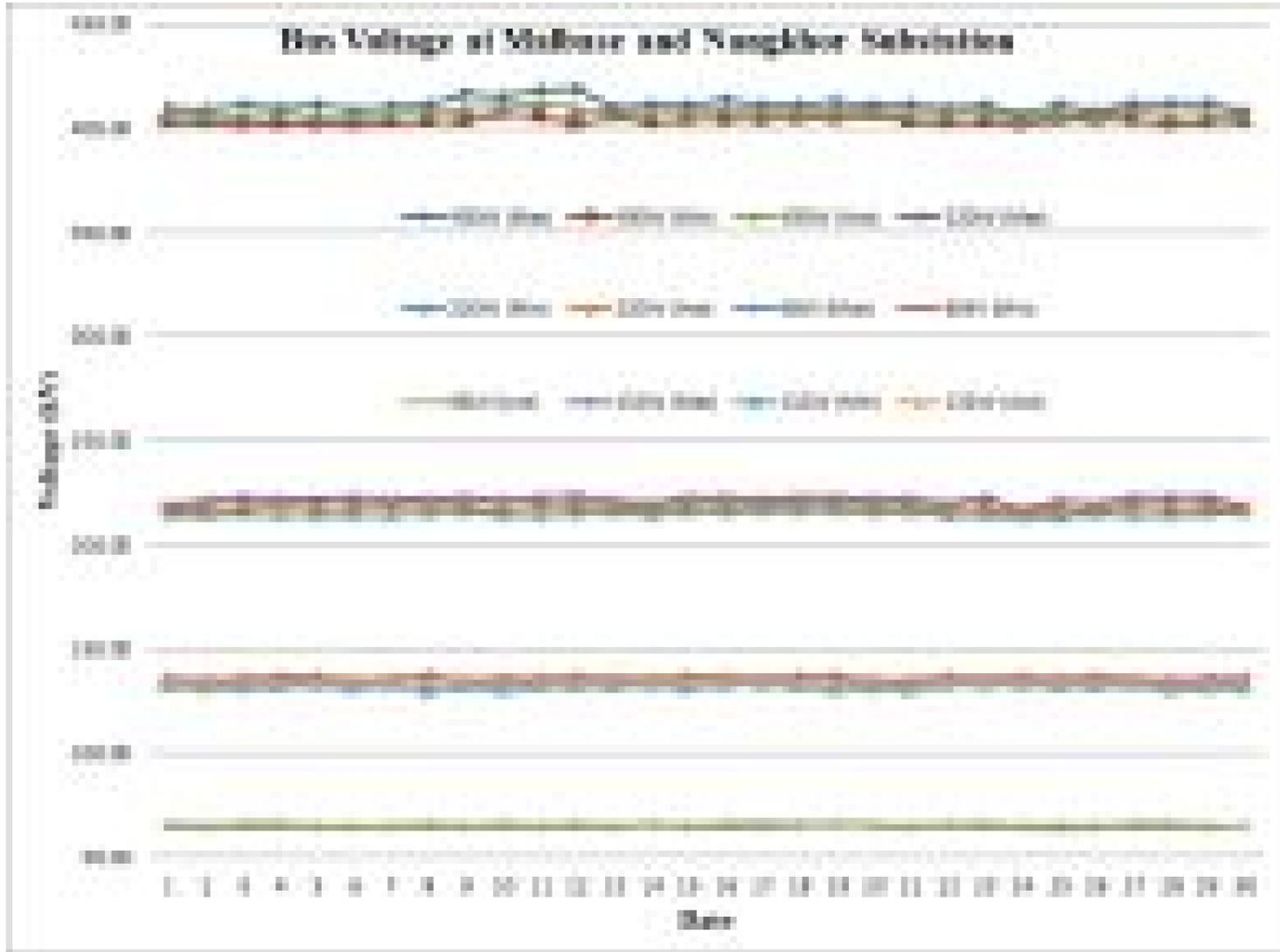


Table: Daily maximum, minimum and average Voltage for the month of September, 2021

Date	Malbase Substation						Neighbor Substation		
	200kV Bus Voltage (kV)	110kV Bus Voltage (kV)	33kV Bus Voltage (kV)	200kV Bus Voltage (kV)	110kV Bus Voltage (kV)	33kV Bus Voltage (kV)	200kV Bus Voltage (kV)	110kV Bus Voltage (kV)	33kV Bus Voltage (kV)
01/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
02/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
03/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
04/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
05/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
06/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
07/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
08/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
09/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
10/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
11/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
12/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
13/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
14/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
15/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
16/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
17/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
18/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
19/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
20/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
21/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
22/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
23/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
24/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
25/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
26/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
27/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
28/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
29/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
30/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
31/09/21	230.00	225.00	220.00	230.00	225.00	220.00	230.00	225.00	220.00
<b>Total</b>	<b>230.00</b>	<b>225.00</b>	<b>220.00</b>	<b>230.00</b>	<b>225.00</b>	<b>220.00</b>	<b>230.00</b>	<b>225.00</b>	<b>220.00</b>







Sl. No.	Line No.	Line Name	Line Type	Line Voltage (kV)	Line Length (km)	Line Capacity (MW)	Line Status	Line Remarks	Line Remarks	Line Remarks
1	1001	1001	1001	1001	1001	1001	1001	1001	1001	1001
2	1002	1002	1002	1002	1002	1002	1002	1002	1002	1002
3	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003
4	1004	1004	1004	1004	1004	1004	1004	1004	1004	1004
5	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005

Sl. No.	Line No.	Line Name	Line Type	Line Voltage (kV)	Line Length (km)	Line Capacity (MW)	Line Status	Line Remarks	Line Remarks	Line Remarks
1	1001	1001	1001	1001	1001	1001	1001	1001	1001	1001
2	1002	1002	1002	1002	1002	1002	1002	1002	1002	1002
3	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003
4	1004	1004	1004	1004	1004	1004	1004	1004	1004	1004
5	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005
6	1006	1006	1006	1006	1006	1006	1006	1006	1006	1006
7	1007	1007	1007	1007	1007	1007	1007	1007	1007	1007
8	1008	1008	1008	1008	1008	1008	1008	1008	1008	1008
9	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009
10	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010

Sl. No.	Line No.	Line Name	Line Type	Line Voltage (kV)	Line Length (km)	Line Capacity (MW)	Line Status	Line Remarks	Line Remarks	Line Remarks
1	1001	1001	1001	1001	1001	1001	1001	1001	1001	1001
2	1002	1002	1002	1002	1002	1002	1002	1002	1002	1002
3	1003	1003	1003	1003	1003	1003	1003	1003	1003	1003
4	1004	1004	1004	1004	1004	1004	1004	1004	1004	1004
5	1005	1005	1005	1005	1005	1005	1005	1005	1005	1005
6	1006	1006	1006	1006	1006	1006	1006	1006	1006	1006
7	1007	1007	1007	1007	1007	1007	1007	1007	1007	1007
8	1008	1008	1008	1008	1008	1008	1008	1008	1008	1008
9	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009
10	1010	1010	1010	1010	1010	1010	1010	1010	1010	1010





Transmission System Performance Report														
Sl. No.	Transmission Line	Voltage (kV)	Length (km)	No. of Towers	No. of Poles	No. of Cross Arms	No. of Insulators	No. of Spacers	No. of Vibration Dampers	No. of Surge Arresters	No. of Faults	No. of Outages	Remarks	
1	132 kV Dhaka - Jessore	132	100	100	100	100	100	100	100	100	100	100	100	
2	132 kV Dhaka - Chittagong	132	150	150	150	150	150	150	150	150	150	150	150	
3	132 kV Dhaka - Comilla	132	80	80	80	80	80	80	80	80	80	80	80	
4	132 kV Dhaka - Rajshahi	132	120	120	120	120	120	120	120	120	120	120	120	
5	132 kV Dhaka - Moulvibazar	132	90	90	90	90	90	90	90	90	90	90	90	
6	132 kV Dhaka - Barisal	132	110	110	110	110	110	110	110	110	110	110	110	
7	132 kV Dhaka - Cox's Bazar	132	130	130	130	130	130	130	130	130	130	130	130	
8	132 kV Dhaka - Feni	132	140	140	140	140	140	140	140	140	140	140	140	
9	132 kV Dhaka - Khulna	132	100	100	100	100	100	100	100	100	100	100	100	
10	132 kV Dhaka - Barisal	132	110	110	110	110	110	110	110	110	110	110	110	
11	132 kV Dhaka - Jessore	132	100	100	100	100	100	100	100	100	100	100	100	
12	132 kV Dhaka - Chittagong	132	150	150	150	150	150	150	150	150	150	150	150	
13	132 kV Dhaka - Comilla	132	80	80	80	80	80	80	80	80	80	80	80	
14	132 kV Dhaka - Rajshahi	132	120	120	120	120	120	120	120	120	120	120	120	
15	132 kV Dhaka - Moulvibazar	132	90	90	90	90	90	90	90	90	90	90	90	
16	132 kV Dhaka - Barisal	132	110	110	110	110	110	110	110	110	110	110	110	
17	132 kV Dhaka - Cox's Bazar	132	130	130	130	130	130	130	130	130	130	130	130	
18	132 kV Dhaka - Feni	132	140	140	140	140	140	140	140	140	140	140	140	
19	132 kV Dhaka - Khulna	132	100	100	100	100	100	100	100	100	100	100	100	
20	132 kV Dhaka - Barisal	132	110	110	110	110	110	110	110	110	110	110	110	
21	132 kV Dhaka - Jessore	132	100	100	100	100	100	100	100	100	100	100	100	
22	132 kV Dhaka - Chittagong	132	150	150	150	150	150	150	150	150	150	150	150	
23	132 kV Dhaka - Comilla	132	80	80	80	80	80	80	80	80	80	80	80	
24	132 kV Dhaka - Rajshahi	132	120	120	120	120	120	120	120	120	120	120	120	
25	132 kV Dhaka - Moulvibazar	132	90	90	90	90	90	90	90	90	90	90	90	
26	132 kV Dhaka - Barisal	132	110	110	110	110	110	110	110	110	110	110	110	
27	132 kV Dhaka - Cox's Bazar	132	130	130	130	130	130	130	130	130	130	130	130	
28	132 kV Dhaka - Feni	132	140	140	140	140	140	140	140	140	140	140	140	
29	132 kV Dhaka - Khulna	132	100	100	100	100	100	100	100	100	100	100	100	
30	132 kV Dhaka - Barisal	132	110	110	110	110	110	110	110	110	110	110	110	
31	132 kV Dhaka - Jessore	132	100	100	100	100	100	100	100	100	100	100	100	
32	132 kV Dhaka - Chittagong	132	150	150	150	150	150	150	150	150	150	150	150	
33	132 kV Dhaka - Comilla	132	80	80	80	80	80	80	80	80	80	80	80	
34	132 kV Dhaka - Rajshahi	132	120	120	120	120	120	120	120	120	120	120	120	
35	132 kV Dhaka - Moulvibazar	132	90	90	90	90	90	90	90	90	90	90	90	
36	132 kV Dhaka - Barisal	132	110	110	110	110	110	110	110	110	110	110	110	
37	132 kV Dhaka - Cox's Bazar	132	130	130	130	130	130	130	130	130	130	130	130	
38	132 kV Dhaka - Feni	132	140	140	140	140	140	140	140	140	140	140	140	
39	132 kV Dhaka - Khulna	132	100	100	100	100	100	100	100	100	100	100	100	
40	132 kV Dhaka - Barisal	132	110	110	110	110	110	110	110	110	110	110	110	
41	132 kV Dhaka - Jessore	132	100	100	100	100	100	100	100	100	100	100	100	
42	132 kV Dhaka - Chittagong	132	150	150	150	150	150	150	150	150	150	150	150	
43	132 kV Dhaka - Comilla	132	80	80	80	80	80	80	80	80	80	80	80	
44	132 kV Dhaka - Rajshahi	132	120	120	120	120	120	120	120	120	120	120	120	
45	132 kV Dhaka - Moulvibazar	132	90	90	90	90	90	90	90	90	90	90	90	
46	132 kV Dhaka - Barisal	132	110	110	110	110	110	110	110	110	110	110	110	
47	132 kV Dhaka - Cox's Bazar	132	130	130	130	130	130	130	130	130	130	130	130	
48	132 kV Dhaka - Feni	132	140	140	140	140	140	140	140	140	140	140	140	
49	132 kV Dhaka - Khulna	132	100	100	100	100	100	100	100	100	100	100	100	
50	132 kV Dhaka - Barisal	132	110	110	110	110	110	110	110	110	110	110	110	





Sl. No.	Date	Time	Location	Category	Priority	Remarks	Resolution	Remarks	Remarks	
1	01.08.2021	11:14	07.08.2021	03.11	0	0.08	0807 000-01a	Tripped on DTC	Outdoor Relay	Disarmed
2	05.08.2021	8:02	05.08.2021	8.23	2	0.03	0807 000-01a	Tripped on DTC & B/F	Outdoor Relay	Lock

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Sl. No.	Date	Time	Location	Category	Priority	Remarks	Resolution	Remarks	Remarks	
1	01.08.2021	11:14	07.08.2021	03.11	0	0.08	0807 000-01a	Tripped on DTC	Outdoor Relay	Disarmed
2	05.08.2021	8:02	05.08.2021	8.23	2	0.03	0807 000-01a	Tripped on DTC & B/F	Outdoor Relay	Lock





Sl. No.	Name of the Transmission Line	Circuit	Voltage (KV)	Length (km)	No. of Poles	No. of Towers	Transmission Loss (%)		Voltage Drop (%)	Remarks
							Actual	Permissible		
1	Chittagong - Cox's Bazar	1	132	100	100	100	10	10		
2	Dhaka - Jessore	1	132	100	100	100	10	10		
3	Dhaka - Comilla	1	132	100	100	100	10	10		
4	Dhaka - Rajshahi	1	132	100	100	100	10	10		
5	Dhaka - Barisal	1	132	100	100	100	10	10		
6	Dhaka - Chittagong	1	132	100	100	100	10	10		
7	Dhaka - Khulna	1	132	100	100	100	10	10		
8	Dhaka - Moulvibazar	1	132	100	100	100	10	10		
9	Dhaka - Sunamganj	1	132	100	100	100	10	10		
10	Dhaka - Sylhet	1	132	100	100	100	10	10		
11	Dhaka - Faridpur	1	132	100	100	100	10	10		
12	Dhaka - Natore	1	132	100	100	100	10	10		
13	Dhaka - Bogra	1	132	100	100	100	10	10		
14	Dhaka - Pabna	1	132	100	100	100	10	10		
15	Dhaka - Moulvibazar	1	132	100	100	100	10	10		
16	Dhaka - Sunamganj	1	132	100	100	100	10	10		
17	Dhaka - Sylhet	1	132	100	100	100	10	10		
18	Dhaka - Faridpur	1	132	100	100	100	10	10		
19	Dhaka - Natore	1	132	100	100	100	10	10		
20	Dhaka - Bogra	1	132	100	100	100	10	10		
21	Dhaka - Pabna	1	132	100	100	100	10	10		
22	Dhaka - Moulvibazar	1	132	100	100	100	10	10		
23	Dhaka - Sunamganj	1	132	100	100	100	10	10		
24	Dhaka - Sylhet	1	132	100	100	100	10	10		
25	Dhaka - Faridpur	1	132	100	100	100	10	10		
26	Dhaka - Natore	1	132	100	100	100	10	10		
27	Dhaka - Bogra	1	132	100	100	100	10	10		
28	Dhaka - Pabna	1	132	100	100	100	10	10		
29	Dhaka - Moulvibazar	1	132	100	100	100	10	10		
30	Dhaka - Sunamganj	1	132	100	100	100	10	10		
31	Dhaka - Sylhet	1	132	100	100	100	10	10		
32	Dhaka - Faridpur	1	132	100	100	100	10	10		
33	Dhaka - Natore	1	132	100	100	100	10	10		
34	Dhaka - Bogra	1	132	100	100	100	10	10		
35	Dhaka - Pabna	1	132	100	100	100	10	10		
36	Dhaka - Moulvibazar	1	132	100	100	100	10	10		
37	Dhaka - Sunamganj	1	132	100	100	100	10	10		
38	Dhaka - Sylhet	1	132	100	100	100	10	10		
39	Dhaka - Faridpur	1	132	100	100	100	10	10		
40	Dhaka - Natore	1	132	100	100	100	10	10		
41	Dhaka - Bogra	1	132	100	100	100	10	10		
42	Dhaka - Pabna	1	132	100	100	100	10	10		
43	Dhaka - Moulvibazar	1	132	100	100	100	10	10		
44	Dhaka - Sunamganj	1	132	100	100	100	10	10		
45	Dhaka - Sylhet	1	132	100	100	100	10	10		
46	Dhaka - Faridpur	1	132	100	100	100	10	10		
47	Dhaka - Natore	1	132	100	100	100	10	10		
48	Dhaka - Bogra	1	132	100	100	100	10	10		
49	Dhaka - Pabna	1	132	100	100	100	10	10		
50	Dhaka - Moulvibazar	1	132	100	100	100	10	10		
51	Dhaka - Sunamganj	1	132	100	100	100	10	10		
52	Dhaka - Sylhet	1	132	100	100	100	10	10		
53	Dhaka - Faridpur	1	132	100	100	100	10	10		
54	Dhaka - Natore	1	132	100	100	100	10	10		
55	Dhaka - Bogra	1	132	100	100	100	10	10		
56	Dhaka - Pabna	1	132	100	100	100	10	10		
57	Dhaka - Moulvibazar	1	132	100	100	100	10	10		
58	Dhaka - Sunamganj	1	132	100	100	100	10	10		
59	Dhaka - Sylhet	1	132	100	100	100	10	10		
60	Dhaka - Faridpur	1	132	100	100	100	10	10		
61	Dhaka - Natore	1	132	100	100	100	10	10		
62	Dhaka - Bogra	1	132	100	100	100	10	10		
63	Dhaka - Pabna	1	132	100	100	100	10	10		
64	Dhaka - Moulvibazar	1	132	100	100	100	10	10		
65	Dhaka - Sunamganj	1	132	100	100	100	10	10		
66	Dhaka - Sylhet	1	132	100	100	100	10	10		
67	Dhaka - Faridpur	1	132	100	100	100	10	10		
68	Dhaka - Natore	1	132	100	100	100	10	10		
69	Dhaka - Bogra	1	132	100	100	100	10	10		
70	Dhaka - Pabna	1	132	100	100	100	10	10		
71	Dhaka - Moulvibazar	1	132	100	100	100	10	10		
72	Dhaka - Sunamganj	1	132	100	100	100	10	10		
73	Dhaka - Sylhet	1	132	100	100	100	10	10		
74	Dhaka - Faridpur	1	132	100	100	100	10	10		
75	Dhaka - Natore	1	132	100	100	100	10	10		
76	Dhaka - Bogra	1	132	100	100	100	10	10		
77	Dhaka - Pabna	1	132	100	100	100	10	10		
78	Dhaka - Moulvibazar	1	132	100	100	100	10	10		
79	Dhaka - Sunamganj	1	132	100	100	100	10	10		
80	Dhaka - Sylhet	1	132	100	100	100	10	10		
81	Dhaka - Faridpur	1	132	100	100	100	10	10		
82	Dhaka - Natore	1	132	100	100	100	10	10		
83	Dhaka - Bogra	1	132	100	100	100	10	10		
84	Dhaka - Pabna	1	132	100	100	100	10	10		
85	Dhaka - Moulvibazar	1	132	100	100	100	10	10		
86	Dhaka - Sunamganj	1	132	100	100	100	10	10		
87	Dhaka - Sylhet	1	132	100	100	100	10	10		
88	Dhaka - Faridpur	1	132	100	100	100	10	10		
89	Dhaka - Natore	1	132	100	100	100	10	10		
90	Dhaka - Bogra	1	132	100	100	100	10	10		
91	Dhaka - Pabna	1	132	100	100	100	10	10		
92	Dhaka - Moulvibazar	1	132	100	100	100	10	10		
93	Dhaka - Sunamganj	1	132	100	100	100	10	10		
94	Dhaka - Sylhet	1	132	100	100	100	10	10		
95	Dhaka - Faridpur	1	132	100	100	100	10	10		
96	Dhaka - Natore	1	132	100	100	100	10	10		
97	Dhaka - Bogra	1	132	100	100	100	10	10		
98	Dhaka - Pabna	1	132	100	100	100	10	10		
99	Dhaka - Moulvibazar	1	132	100	100	100	10	10		
100	Dhaka - Sunamganj	1	132	100	100	100	10	10		