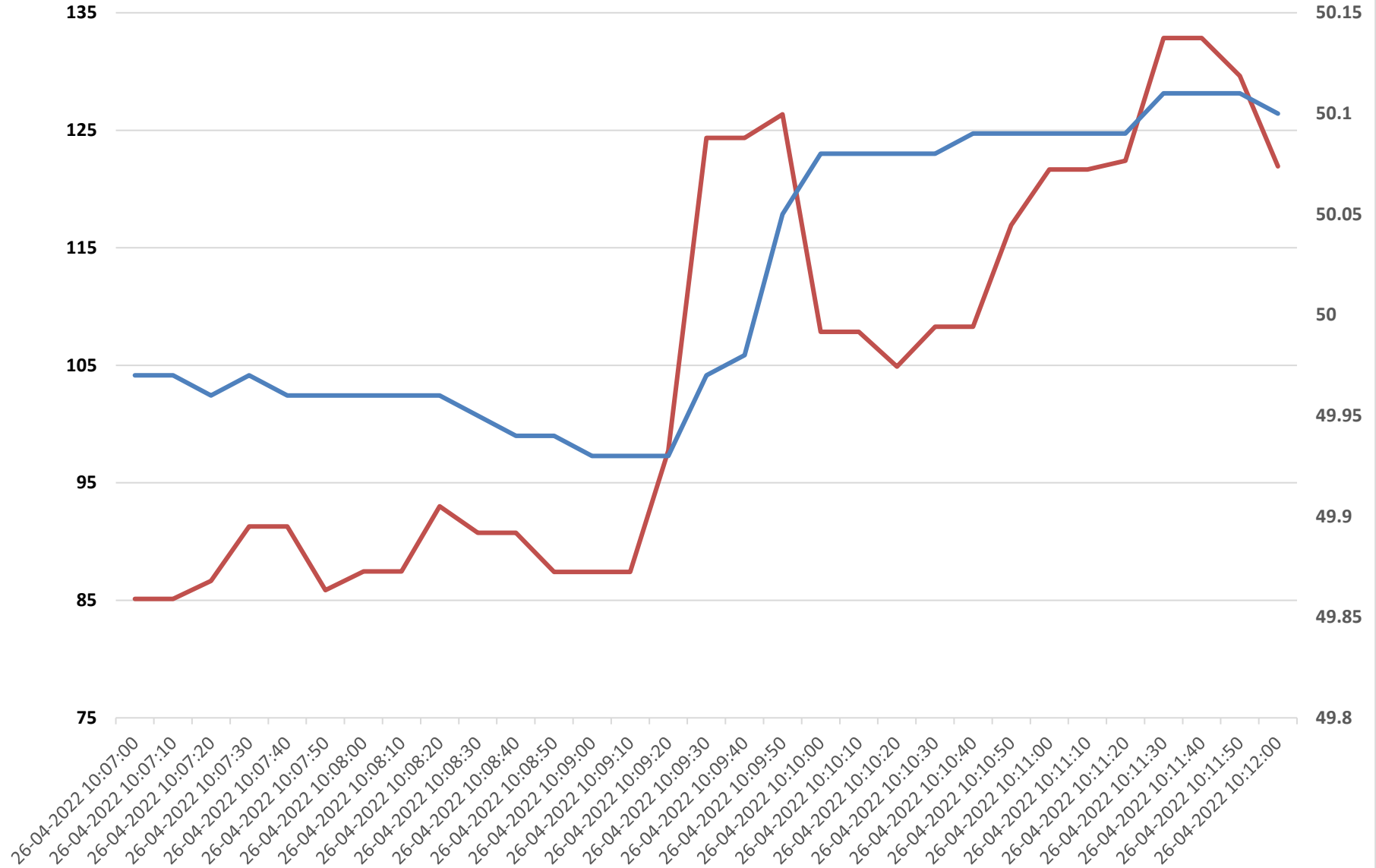


# NER Import v/s Frequency



— NER Import (MW)

— BALIP\_PG.BUS.F\_B1.HZ

+ve: Import & -ve: Export

**Frequency Response Characteristic in North-Eastern Region (Based on NERLDC SCADA data)**

Event	At 10:08 Hrs Dated 26th-April-2022, As reported due to blackout at 400kV Padghe (MH), Load loss of around 3110 MW occurred in Western Region in Mumbai,MMR,Nasik,Ahmednagar area.In the event load loss of around 1694 MW occurred due to tripping of 5 No. of 400/220kV ICTs at 400kV Padghe(MH) and 1263 MW load relief came from various LTS (Load Trimming Scheme) operation.Accordingly Load loss figure of 1694 MW is considered in FRC Calculation.										
Date and Time of Event	26.04.2022, 10:08:00 Hrs										
			NER ISGS GENERATION								
SI No.	Particulars	Dimension	Palatana	Khandong + stg II	Kopili	Doyang	RHEP	Loktak	BgTPP	Kameng	Pare
1	Installed Capacity	MW	2 x 363.3	2 x 25 +1 x 25	4 x 50	3 x 25	3 x 135	3 x 35	3 x 250	4 x 150	2 x 55
2	No of Units on Bar	MW	2	0	0	0	0	0	3	0	0
3	Installed Capacity (MCR) of Units on Bar	MW	726.6	0.0	0.0	0.0	0.0	0.0	750.0	0.0	0.0
4	Declared capacity (DC)	MW	528.0	0	0	0.0	0.0	0	683	0	0
5	105 % of MCR	MW	762.9	0.0	0.0	0.0	0.0	0.0	787.5	0.0	0.0
6	Whether on ramping (Yes/No)		No	NA	NA	NA	NA	NA	No	NA	NA
7	Margin Available	MW	233.7	0.0	0.0	0.0	0.0	0.0	112.1	0.0	0.0
8	Actual Net Interchange before the Event (10:09:00)	MW	529.2	0.00	0.0	0.0	0.0	0.0	675.4	0.0	0.0
9	Actual Net Interchange after the Event (10:09:50)	MW	515.4	0.00	0.0	0.0	0.0	0.0	670.6	0.0	0.0
10	Change in Net Interchange (9 - 8)	MW	-13.8	0.0	0.0	0.0	0.0	0.0	-4.8	0.0	0.0
11	Generation Loss (+) / Load Throw off (-) during the Event	MW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	Control Area Response 11-10)	MW	13.8	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0
13	Frequency before the Event	Hz	49.93	49.93	49.93	49.93	49.93	49.93	49.93	49.93	49.93
14	Frequency after the Event	Hz	50.05	50.05	50.05	50.05	50.05	50.05	50.05	50.05	50.05
15	Change in Frequency (14-13)	Hz	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
16	<b>Frequency Response Characteristic (12 / 15)</b>	<b>MW/Hz</b>	<b>115.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>40.0</b>	<b>0.0</b>	<b>0.0</b>
17	Net System Demand met before the Event	MW	0	0.0	0	0	0	0	0	0	0
18	Internal Generation before the Event (8)	MW	529	0.00	0	0	0	0	675.4	0.0	0
19	Ideal load response assuming 4% per Hz (0.04*Row 17)	MW/Hz	0	0.0	0	0	0	0	0	0	0
20	Ideal generator response assuming 5% droop.....40% per Hz (40% of Row 18)	MW/Hz	211.7	0.0	0.0	0.0	0.0	0.0	270.2	0.0	0.0
21	Composite ideal response (19 + 20)	MW/Hz	211.7	0.0	0.0	0.0	0.0	0.0	270.2	0.0	0.0
22	Percentage ideal response (16/21)	%	54.33%						14.81%		

NER ISGS AGBPP and AGTCCPP are not mandated for FGMO/RGMO as unit wise IC is less than 50 MW.

### Frequency Response Characteristic in North-Eastern Region (Based on NERLDC SCADA data)

<b>Event</b>	At 10:08 Hrs Dated 26th-April-2022, As reported due to blackout at 400kV Padghe (MH), Load loss of around 3110 MW occurred in Western Region in Mumbai,MMR,Nasik,Ahmednagar area.In the event load loss of around 1694 MW occurred due to tripping of 5 No. of 400/220kV ICTs at 400kV Padghe(MH) and 1263 MW load relief came from various LTS (Load Trimming Scheme) operation.Accordingly Load loss figure of 1694 MW is considered in FRC Calculation.	
<b>Date and Time of Event</b>	26.04.2022, 10:08:00 Hrs	

Serial No.	Particulars	Dimension	AP	Assam	Meghalaya	Manipur	Mizoram	Nagaland	Tripura*	NER*
1	Actual Net Interchange before the Event (10:09:00)	MW	81.02	916.69	136.06	103.86	72.39	89.00	192.07	87.42
2	Actual Net Interchange after the Event (10:09:50)	MW	78.55	922.18	137.21	104.43	72.59	89.40	191.35	126.36
3	Change in Net Interchange (2 - 1)	MW	-2.5	5.5	1.2	0.6	0.2	0.4	-0.7	38.9
4	Generation Loss (+) / Load Throw off (-) during the Event	MW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	Control Area Response (3-4)	MW	-2.5	5.5	1.2	0.6	0.2	0.4	-0.7	38.9
6	Frequency before the Event	HZ	49.93	49.93	49.93	49.93	49.93	49.93	49.93	49.93
7	Frequency after the Event	HZ	50.05	50.05	50.05	50.05	50.05	50.05	50.05	50.05
8	Change in Frequency (7-6)	HZ	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
9	Frequency Response Characteristic (5 / 8)	MW/HZ	-21	46	10	5	1.7	3.3	-6	325
10	Net System Demand met before the Event	MW	85.02	1190.21	235.67	103.86	72.39	101.00	354.25	1997.95
11	Internal Generation before the Event (10 - 1)	MW	4.0	273.5	99.6	0.0	0.0	12.0	162.2	1910.5
12	Ideal load response assuming 4% per Hz (0.04*Row 10)	MW/Hz	3.4	47.6	9.4	4.2	2.9	4.0	14.2	79.9
13	Ideal generator response assuming 5% droop.....40% per Hz (40% of Row 11)	MW/Hz	2	109.4	39.8	0.0	0	5	64.9	764.2
14	Composite ideal response (12 + 13)	MW/Hz	5	157	49	4	3	9	79	844
15	Percentage ideal response (9/14)	%	-411.60%	29.1%	19.5%	114.3%	57.6%	37.7%	-7.6%	38.44%

Note: +ve exchange=> import ; (-)ve exchange => export

\* Tripura Demand Met also includes Bangladesh.

\*NER Demand Met excludes Bangladesh