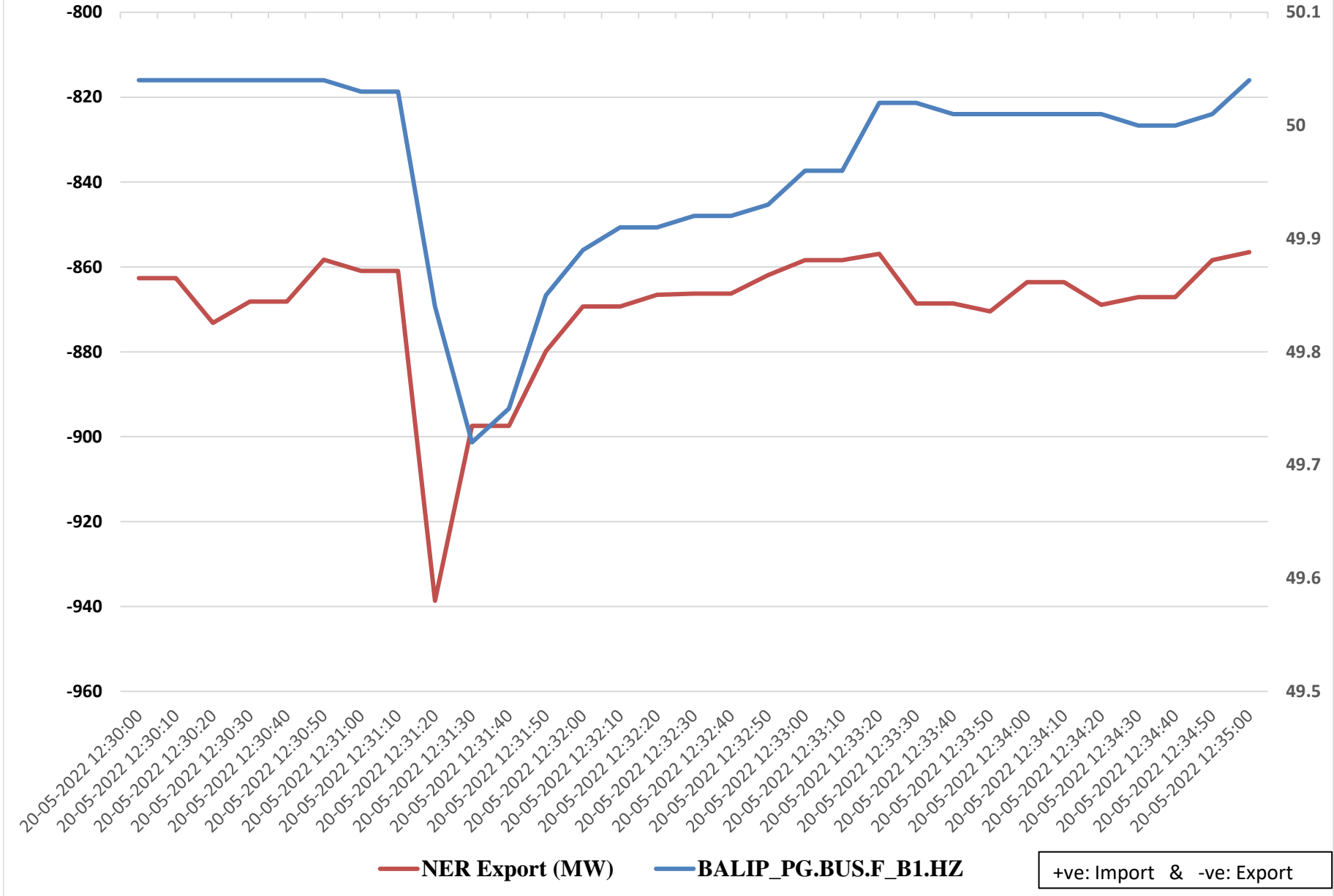


NER Export v/s Frequency



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

Event	At 12:31 Hrs on Dated 20th-May-2022, As reported Generation loss of around 3014 MW (Fatehgarh2 1578MW, Bhadla PG 1136 MW, Bhadla2 30 MW,Bikaner 270 MW) occurred due to multiple tripping in Rajasthan Solar Generation complex of Northern Region and same has been considered for FRC Calculation.										
Date and Time of Event	20.05.2022, 12:31:00 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	2	3	3	3	3	2
3	Installed Capacity (MCR) of Units on Bar	MW	726.6	0.0	0.0	50.0	405.0	105.0	750.0	450.0	110.0
4	Declared capacity (DC)	MW	558.0	0	0	33.0	330.0	103	683	400	118
5	105 % of MCR	MW	762.9	0.0	0.0	52.5	425.3	110.3	787.5	472.5	115.5
6	Whether on ramping (Yes/No)		No	NA	NA	No	No	No	No	No	No
7	Margin Available	MW	205.5	0.0	0.0	19.1	92.5	6.2	408.7	71.8	-4.8
8	Actual Net Interchange before the Event (12:31:10)	MW	557.4	0.00	0.0	33.5	332.8	104.1	378.8	400.7	120.3
9	Actual Net Interchange after the Event (12:32:10)	MW	576.5	0.00	0.0	33.4	335.7	104.2	382.4	400.7	120.1
10	Change in Net Interchange (9 - 8)	MW	19.1	0.0	0.0	-0.1	3.0	0.1	3.6	0.0	-0.2
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	-19.1	0.0	0.0	0.1	-3.0	-0.1	-3.6	0.0	0.2
13	Frequency before the Event	Hz	50.03	50.03	50.03	50.03	50.03	50.03	50.03	50.03	50.03
14	Frequency after the Event	Hz	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91
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	Frequency Response Characteristic (12 / 15)	MW/Hz	159.2	0.0	0.0	-0.8	24.6	0.8	30.1	0.3	-1.3
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	557	0.00	0	33	333	104	378.8	400.7	120
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	223.0	0.0	0.0	13.4	133.1	41.6	151.5	160.3	48.1
21	Composite ideal response (19 + 20)	MW/Hz	223.0	0.0	0.0	13.4	133.1	41.6	151.5	160.3	48.1
22	Percentage ideal response (16/21)	%	71.39%			-6.23%	18.47%	2.00%	19.85%	0.16%	-2.60%

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)

Event	At 12:31 Hrs on Dated 20th-May-2022, As reported Generation loss of around 3014 MW (Fatehgarh2 1578MW, Bhadla PG 1136 MW, Bhadla2 30 MW, Bikaner 270 MW) occurred due to multiple tripping in Rajasthan Solar Generation complex of Northern Region and same has been considered for FRC Calculation.	
Date and Time of Event	20.05.2022, 12:31:00 Hrs	

Serial No.	Particulars	Dimension	AP	Assam	Meghalaya	Manipur	Mizoram	Nagaland	Tripura*	NER*
1	Actual Net Interchange before the Event (12:31:10)	MW	75.41	872.83	0.31	91.27	54.29	77.82	67.72	-860.94
2	Actual Net Interchange after the Event (12:32:10)	MW	78.95	890.48	-7.56	91.28	56.57	78.01	69.05	-869.33
3	Change in Net Interchange (2 - 1)	MW	3.5	17.7	-7.9	0.0	2.3	0.2	1.3	-8.4
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	3.5	17.7	-7.9	0.0	2.3	0.2	1.3	-8.4
6	Frequency before the Event	HZ	50.03	50.03	50.03	50.03	50.03	50.03	50.03	50.03
7	Frequency after the Event	HZ	49.91	49.91	49.91	49.91	49.91	49.91	49.91	49.91
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	-29	-147	66	0	-19.0	-1.6	-11	70
10	Net System Demand met before the Event	MW	83.41	1137.99	217.77	91.27	54.29	89.82	214.78	1793.43
11	Internal Generation before the Event (10 - 1)	MW	8.0	265.2	217.5	0.0	0.0	12.0	147.1	2654.4
12	Ideal load response assuming 4% per Hz (0.04*Row 10)	MW/Hz	3.3	45.5	8.7	3.7	2.2	3.6	8.6	71.7
13	Ideal generator response assuming 5% droop.....40% per Hz (40% of Row 11)	MW/Hz	3	106.1	87.0	0.0	0	5	58.8	1061.7
14	Composite ideal response (12 + 13)	MW/Hz	7	152	96	4	2	8	67	1133
15	Percentage ideal response (9/14)	%	-451.32%	-97.0%	68.5%	-2.3%	-874.9%	-18.9%	-16.4%	6.17%

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

* Tripura Demand Met also includes Bangladesh.

*NER Demand Met excludes Bangladesh