

Frequency Response Characteristic Calculation for All India based on NLDC SCADA Data

EVENT:	At 11:06 Hrs on Dated 02nd-May-2022, As reported Solar generation loss of around 1920MW observed in solar generation complex in Rajasthan of Northern Region and same has been considered in FRC Calculation.□						
S No	Particulars	Dimension	NR	ER	WR	NER	SR
1	Actual Net Interchange before the Event (11:06:15)	MW	6104	-6809	-3884	-175	4539
2	Actual Net Interchange after the Event (11:07:30)	MW	7701	-7064	-4552	-218	3967
3	Change in Net Interchange (2 - 1)	MW	1597	-255	-668	-43.0	-572
4	Generation Loss (+) / Load Throw off (-) during the Event	MW	1920	0	0	0	0
5	Control Area Response (3 - 4)	MW	-323	-255	-668	-43	-572
6	Frequency before the Event	HZ	49.97	49.97	49.97	49.97	49.97
7	Frequency after the Event	HZ	49.85	49.85	49.85	49.85	49.85
8	Change in Frequency (7 - 6)	HZ	-0.112	-0.112	-0.112	-0.112	-0.112
9	Frequency Response Characteristic (5 / 8)	MW/Hz	2884	2277	5964	384	5107
10	Net System Demand met before the Event	MW	58357	17634	64330	1668	50731
11	Internal Generation before the Event (10 - 1)	MW	52253	24443	68214	1843	46192
12	Ideal load response assuming 4% per Hz (0.04*Row 10)	MW/Hz	2334	705	2573	67	2029
13	Ideal generator response assuming 5% droop.....40% per Hz (40% of Row 11)	MW/Hz	20901	9777	27286	737	18477
14	Composite ideal response (12 + 13)	MW/Hz	23236	10483	29859	804	20506
15	Percentage ideal response	%	12.4%	21.7%	20.0%	47.8%	24.9%

(*) - Data may be constant/suspected during the event
 Note: +ve exchange=> import ; (-)ve exchange => export

Total Change in (MW)	1920
FRC for NEWS GRID (dp/df) MW/Hz	17143
Power Number (net change in MW/maximum change in frequency)	9948