



RxMS Tech Notes

5/30/2018

Site Certified ®

Customer Information

Demo Site

Rx Site #:
Monitor S/N:

Site Information

Demo Report

Client Site Code:
Site Equipment: Generator
Monitor Location:

Comments:

These are the test results for the generator.

This power quality survey was conducted by an independent power and environmental consulting firm, Rx Monitoring Services, Inc. (RxMS). The equipment used to perform the survey was provided by RxMS and calibrated prior to shipment and again upon return according to our internal procedures and national standards.

The client is only responsible for the installation of the equipment and has either no or limited access to the data. The data gathered at the site is compared to the original equipment's site specification guideline (supplied at the initial installation) and used to provide the recommendations found in the report. For technical assistance please contact, at no extra charge, Rx Tech Support at 1-603-666-6606. RxMS is not affiliated with any power conditioning manufacturer or distributor but will refer solutions for your convenience if no local source is available.

Rx Monitoring Services, Inc.

**22A Eastman Ave.
Bedford, NH. 03110**

**www.rxms.com
1-888-329-2321**

Generator Test

03/07/2018

03/12/2018

Customer Information:

Project Name:
Rx Monitoring Services, Inc.
22 Eastman Ave.
Bedford, NH 03110

Equipment:

Generator
Model: xxxxx
Serial #: xxx0714
K/W: 2500
Rx Site: xxxxx

Test #	Recovery time aprox (ms) 5% of Nominal	RMS Voltage Devation % of Nominal	Min / Max Frequency	KW Min	KW Max	ISO 8528-5 G1
Transient Step						
0 - 10%	--	-0.8	59.6	20	255	Passed
10 - 32%	--	-1.8	59.1	227	813	Passed
30 - 45%	--	-1.2	59.2	738	1124	Passed
60 - 0%	--	1.7	59.2	18	1554	Passed
0 - 25%	--	-1.9	62.3	19	652	Passed
25 - 0%	--	-1.8	59.2	17	593	Passed
40 - 65%	--	-1.7	61.7	1096	1678	Passed
0 - 50%	265	-6.0	58.3	19	1297	Passed
50 - 0%	--	4.3	63.5	16	1151	Passed
0 - 75%	1630	-16.3	55.5	19	1952	Passed
75 - 0%	137	6.2	63.6	16	1719	Passed
0 - 100%	2430	-26.5	52.5	19	2574	Failed
100 - 0%	271	7.3	63.8	16	2363	Passed
0 - 40%	--	-3.5	58.8	19	1019	Passed

Test #	Recovery time aprox (ms) 5% of Nominal	RMS Voltage Devation % of Nominal	Min / Max Frequency	KW Min	KW Max	ISO 8528-5 G1
Transient Step						
40 - 0%	--	2.8	63.1	17	904	Passed
0 - 65%	1160	-11.0	56.9	19	1663	Passed
60 - 0%	83	5.6	63.5	16	1478	Passed
0 - 85%	1196	-18.9	54.4	20	2166	Passed
80 - 0%	182	6.7	63.7	16	1921	Passed
0 - 100%	2420	-28.5	52.5	19	2579	Failed
100 - 0%	283	7.6	63.8	16	2377	Passed

Tests performed are against ISO 8528-5 G1 Requirements

This is a standard for generator transient testing.

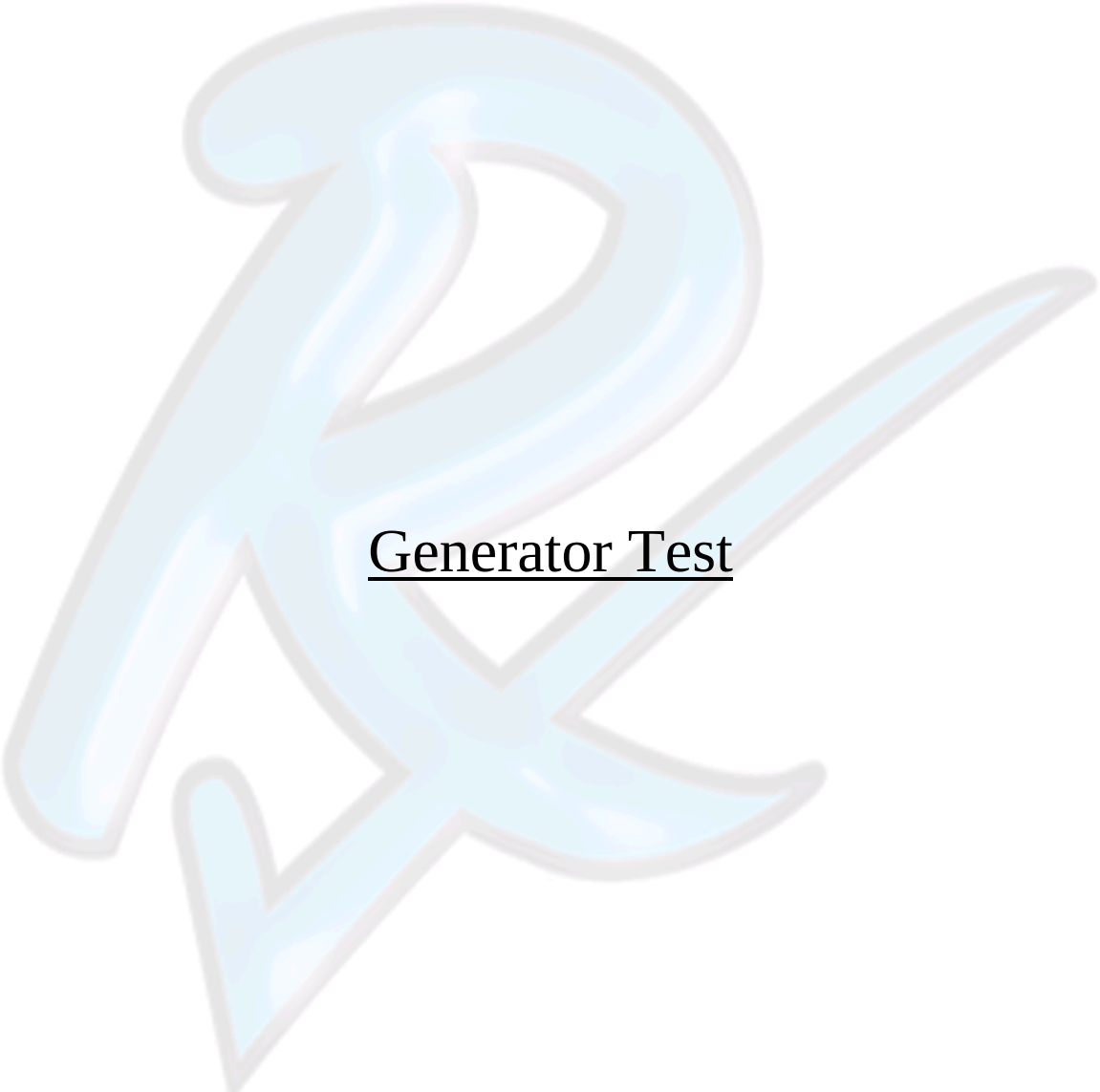
Green = Passed ISO 8528-5

Yellow = Recovery time area.

Voltage: Load increase (-5% to -25%) Load Decrease (+5% to +35%) Under 10 seconds.

Frequency: Load increase (-2.5% to -15%) Load Decrease (+2.5% to +18%) Under 10 seconds.

Red = Failed ISO 8528 G1



Generator Test



Waveform Summary

7/16/2018

Demo
Mar 07, 18 09:39 - Mar 07, 18 10:07

Date/Time	Event ID	KVA Start	KVA Min	KVA Max	KW Start	KW Min	KW Max	PP Dev Min	PP Dev Max	Freq Start	Freq Min	Freq Max	Field Note
03/07/18 09:39:03.418	1494	27.9	219.4	256.4	19.6	199.5	255.0	-0.8	0.2	60.0	59.6	60.1	0 - 10%
03/07/18 09:41:19.451	1510	228.8	478.7	814.0	227.4	407.8	812.7	-1.8	0.1	60.0	59.1	59.9	10 - 32%
03/07/18 09:46:43.784	1525	739.7	1093.5	1125.2	738.4	1092.0	1123.7	-1.2	0.3	59.9	59.2	59.9	30 - 45%
03/07/18 09:46:48.034	1535	1097.6	1311.1	1679.6	1096.1	1283.5	1677.5	-1.7	0.2	60.0	59.2	60.1	40 - 65%
03/07/18 09:55:51.434	1553	1555.6	26.2	1529.7	1553.6	18.1	1522.1	-0.9	1.9	60.2	60.1	62.3	60 - 0%
03/07/18 09:56:44.201	1710	27.2	232.2	653.7	18.9	123.3	652.4	-1.8	0.1	60.0	59.2	59.9	0 - 25%
03/07/18 09:57:15.468	1714	594.1	26.3	359.1	592.9	17.3	252.3	-0.9	1.7	60.3	60.1	61.7	25 - 0%
03/07/18 09:57:59.084	1780	27.8	874.2	1299.2	19.2	673.2	1297.4	-6.0	0.1	59.7	58.3	60.2	0 - 50%
03/07/18 09:59:18.668	1860	1152.5	24.8	1110.7	1150.9	15.6	1084.8	-2.2	4.3	60.4	59.5	63.5	50 - 0%
03/07/18 10:00:03.883	1929	27.8	1341.5	1955.1	19.1	1339.9	1952.4	-16.3	1.8	59.4	55.5	61.9	0 - 75%
03/07/18 10:00:46.934	2072	1721.4	26.1	1368.0	1719.2	15.9	1151.6	-2.4	6.2	60.6	59.6	63.6	75 - 0%
03/07/18 10:01:12.983	2143	27.3	1057.1	2577.4	18.9	579.5	2573.8	-26.5	0.4	59.3	52.5	60.5	0 - 100%
03/07/18 10:01:55.000	2284	2365.8	25.3	1695.8	2362.5	15.5	1309.0	-2.4	7.3	60.8	59.6	63.8	100 - 0%
03/07/18 10:03:41.218	2360	27.4	203.7	1020.3	19.1	75.4	1018.7	-3.5	0.1	59.8	58.7	59.6	0 - 40%
03/07/18 10:04:14.134	2372	905.7	26.2	624.7	904.3	17.1	484.7	-1.9	2.8	60.4	60.1	63.1	40 - 0%
03/07/18 10:04:47.618	2442	28.1	1295.0	1664.7	19.3	1204.4	1662.5	-11.0	1.5	59.6	56.9	60.7	0 - 65%
03/07/18 10:05:18.701	2531	1479.5	25.6	1280.7	1477.5	15.8	1157.0	-2.2	5.6	60.4	59.6	63.5	60 - 0%
03/07/18 10:05:55.666	2609	28.4	1407.2	2169.1	19.5	1405.6	2166.1	-18.9	1.6	59.4	54.4	61.5	0 - 85%
03/07/18 10:06:37.951	2730	1923.7	25.7	1350.0	1921.1	15.7	1004.3	-2.2	6.7	60.6	59.6	63.7	80 - 0%

Comments:

Demo test results for the 2500KW generator.

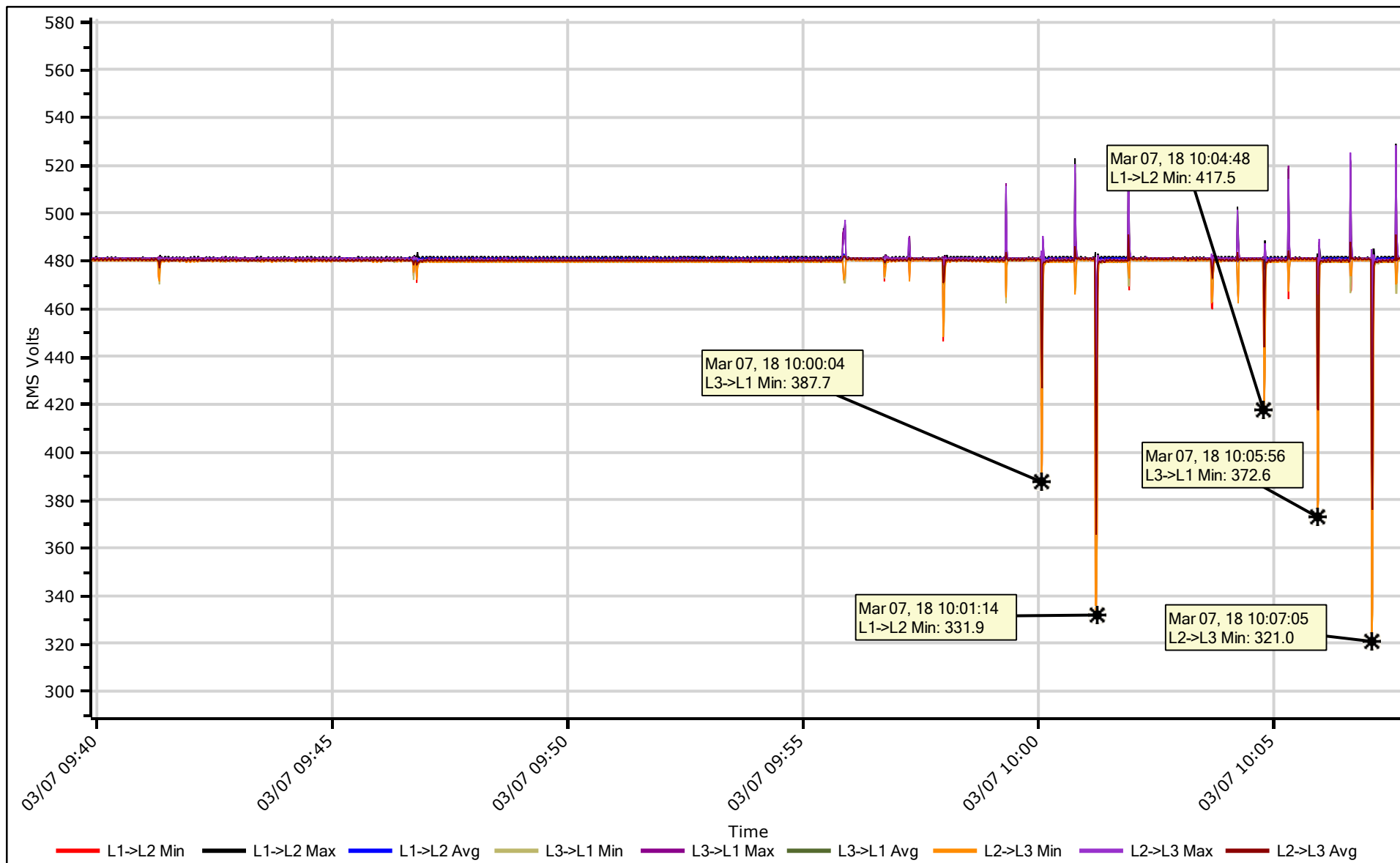


RMS Voltage

7/16/2018

Demo
Mar 07, 18 09:39 - Mar 07, 18 10:07

Max Lo/Hi: 395/529
Avg Lo/Hi: 365/492
Min Lo/Hi: 321/481



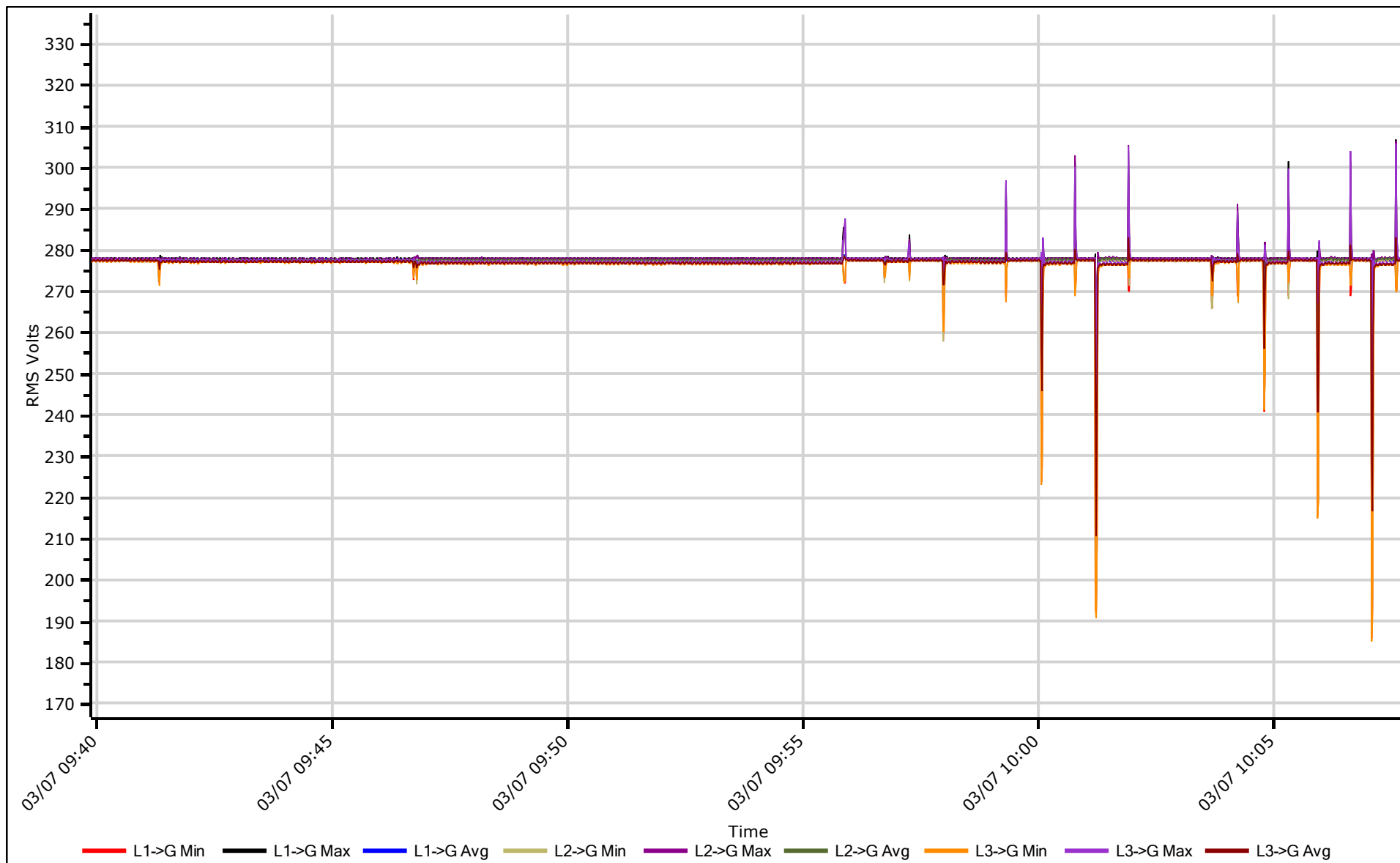


RMS Voltage

7/16/2018

Demo
Mar 07, 18 09:39 - Mar 07, 18 10:07

Max Lo/Hi: 228/307
Avg Lo/Hi: 211/284
Min Lo/Hi: 185/278



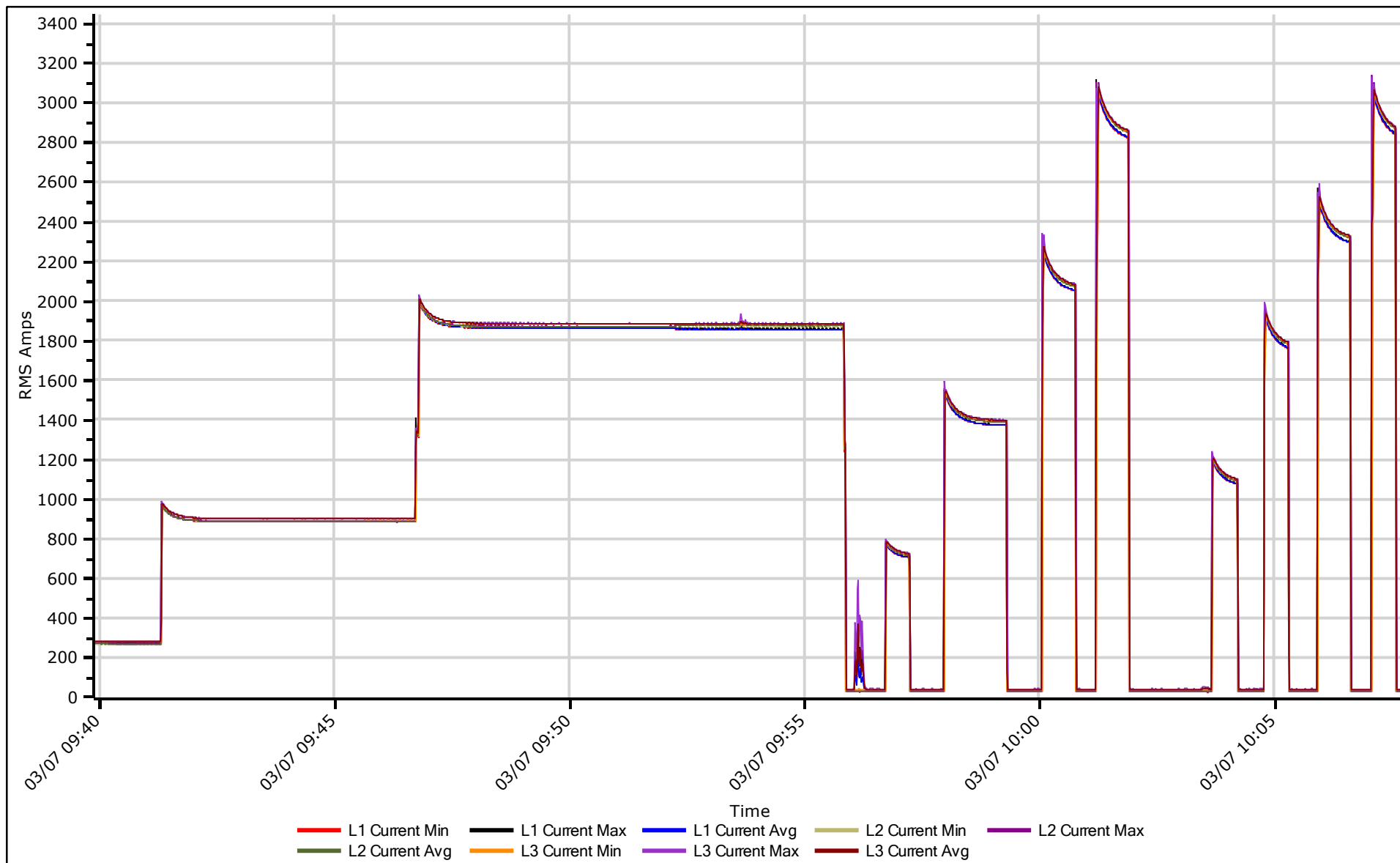


RMS Current

7/16/2018

Demo
Mar 07, 18 09:39 - Mar 07, 18 10:07

Max Lo/Hi: 29/3138
Avg Lo/Hi: 28/3078
Min Lo/Hi: 24/3056



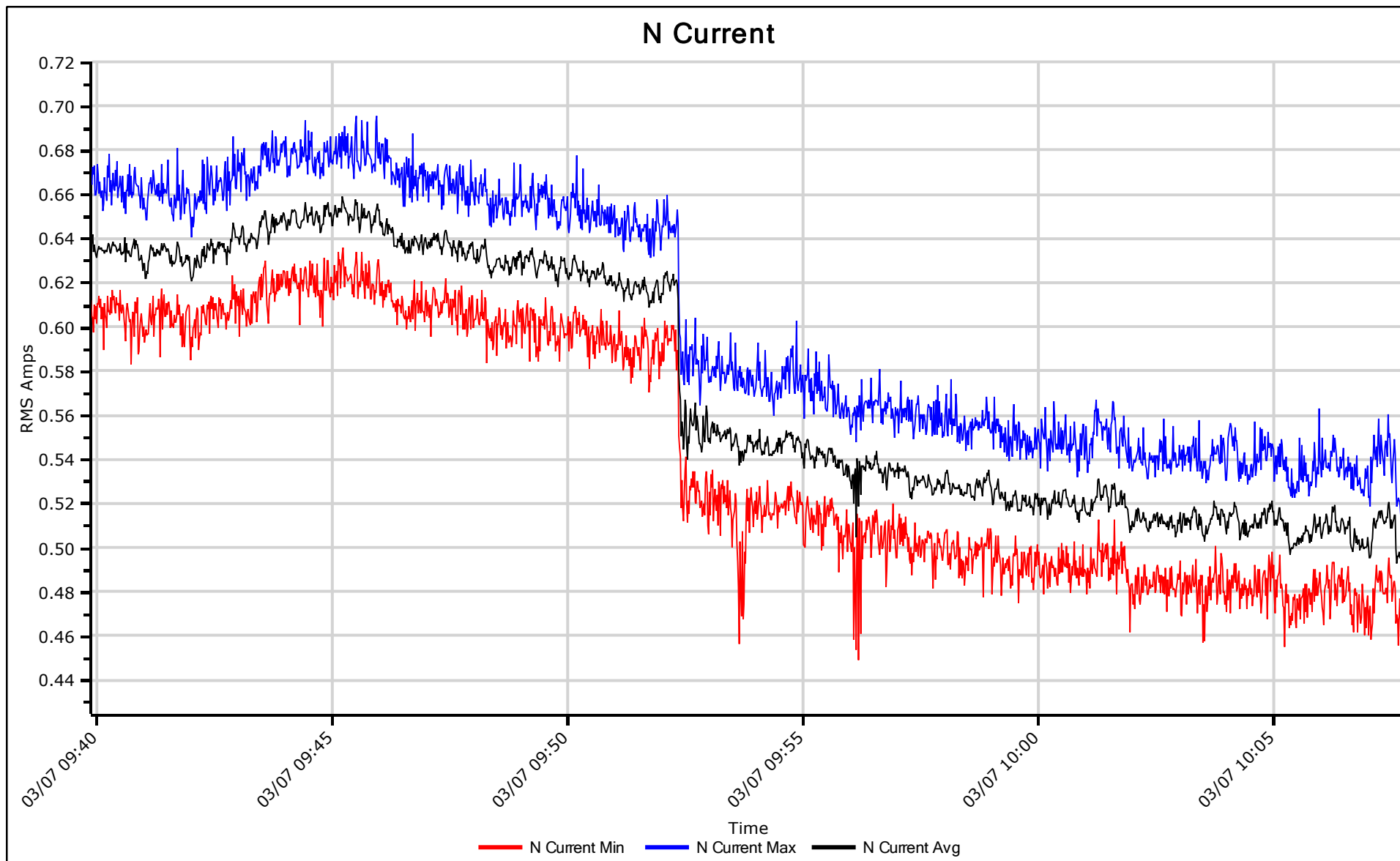


RMS Current

7/16/2018

Demo
Mar 07, 18 09:39 - Mar 07, 18 10:07

Max Lo/Hi: 0.5/0.7
Avg Lo/Hi: 0.5/0.7
Min Lo/Hi: 0.4/0.6



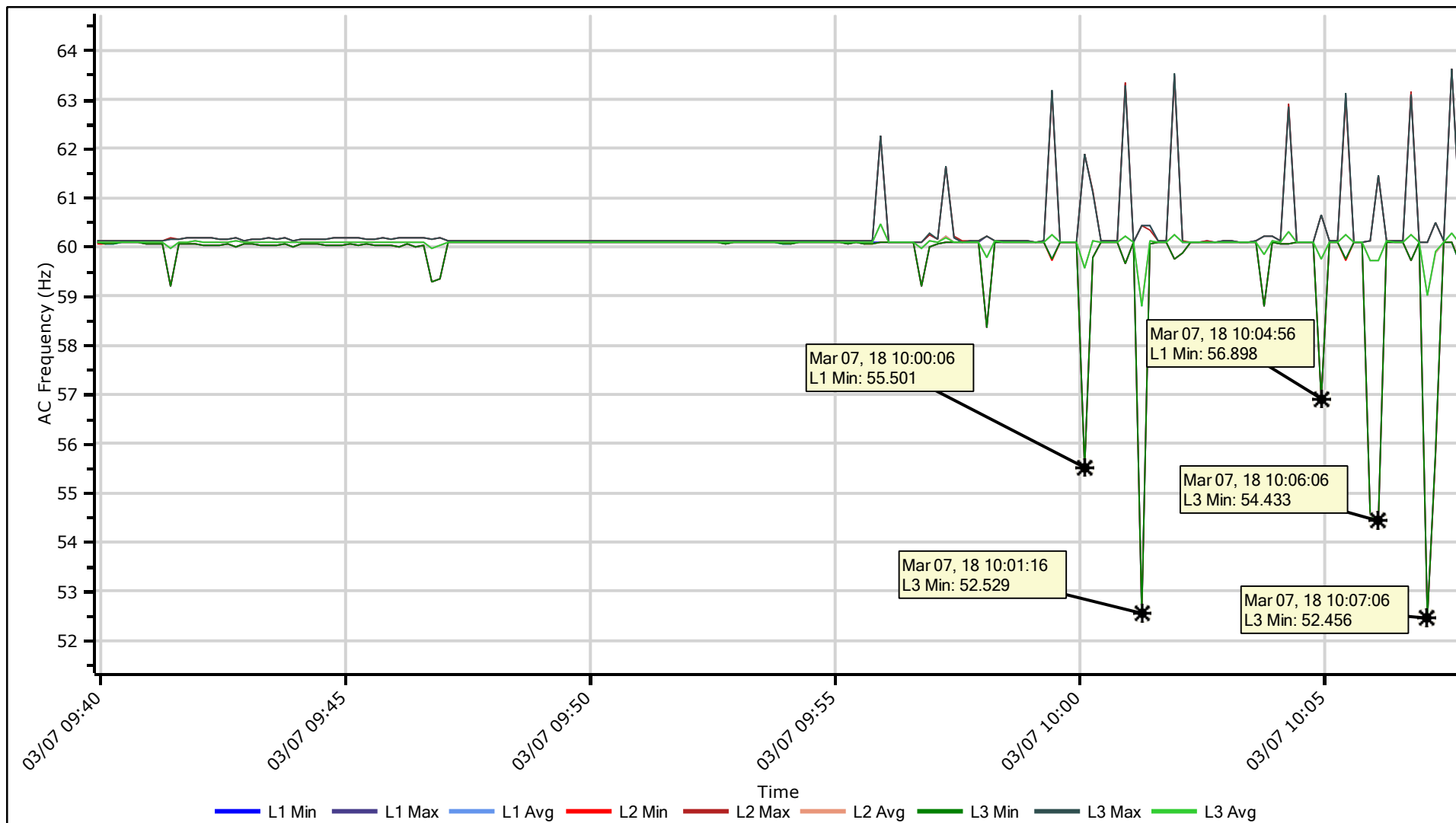


AC Frequency

7/16/2018

L1 Lo/Hi: 52.45/63.62

Demo
Mar 07, 18 09:39 - Mar 07, 18 10:07



Comments:

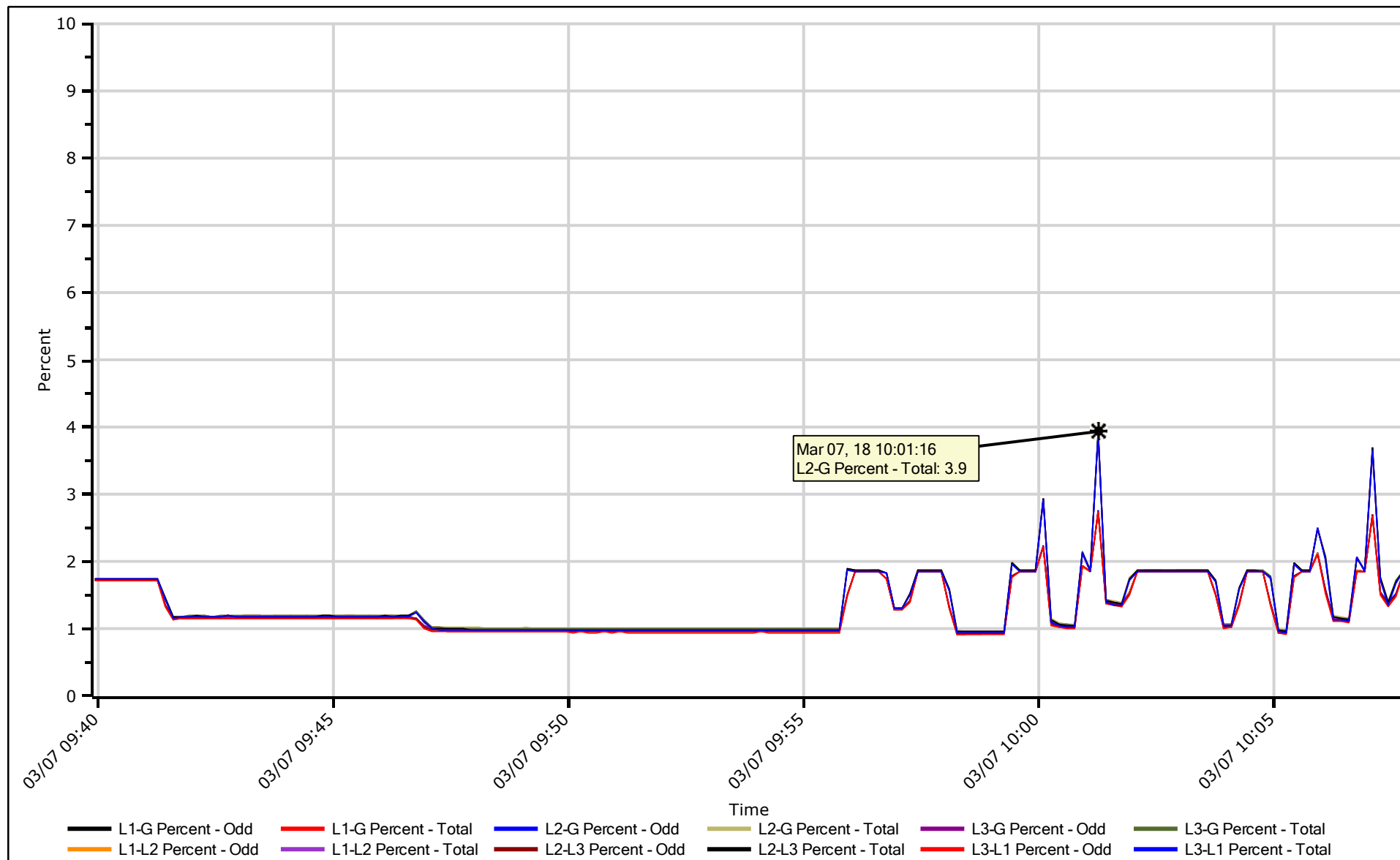
Frequency 20 Cycle Average



THD Logs

7/16/2018

Demo
Mar 07, 18 09:39 - Mar 07, 18 10:07

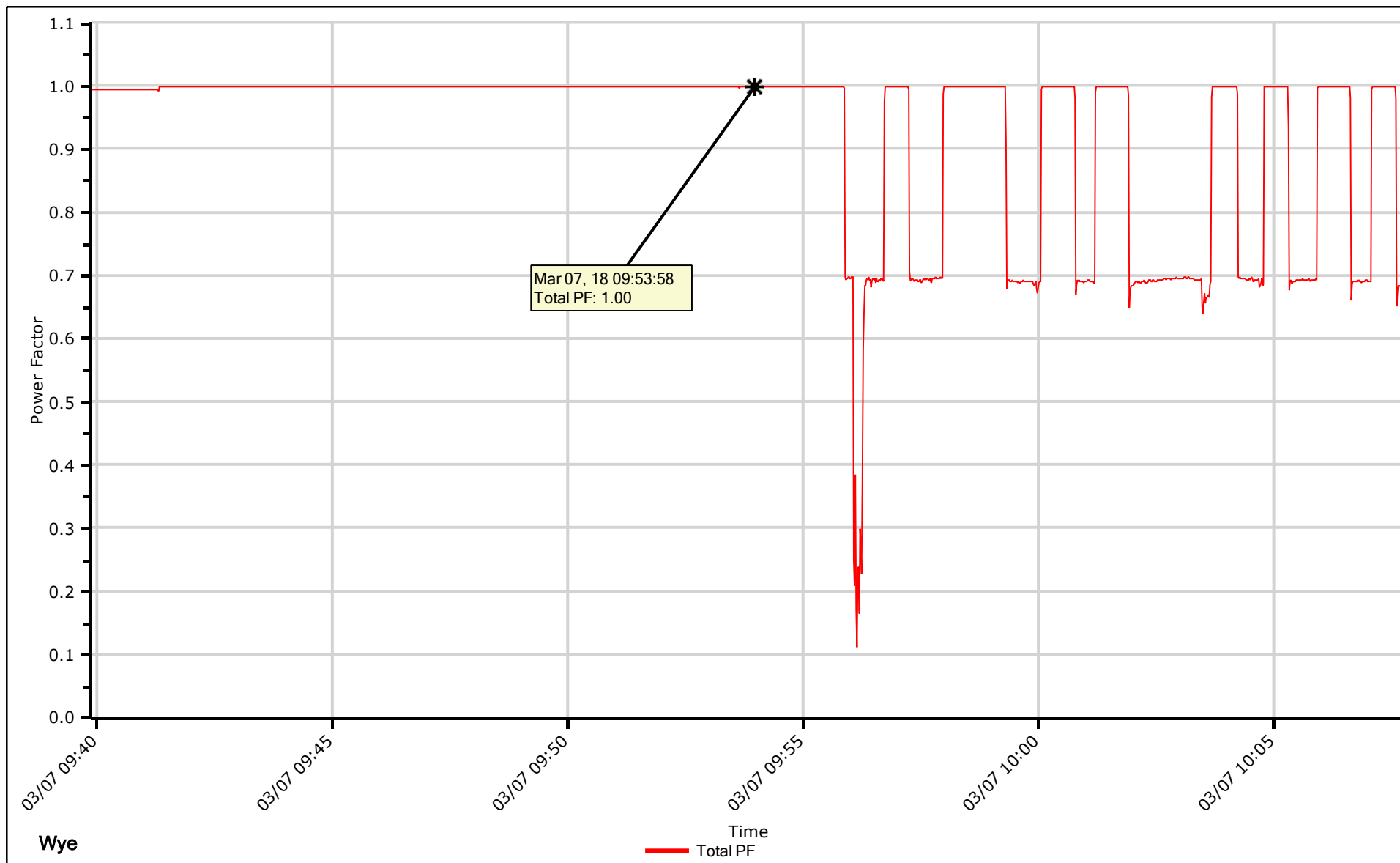




Power Factor

7/16/2018

Demo
Mar 07, 18 09:39 - Mar 07, 18 10:07

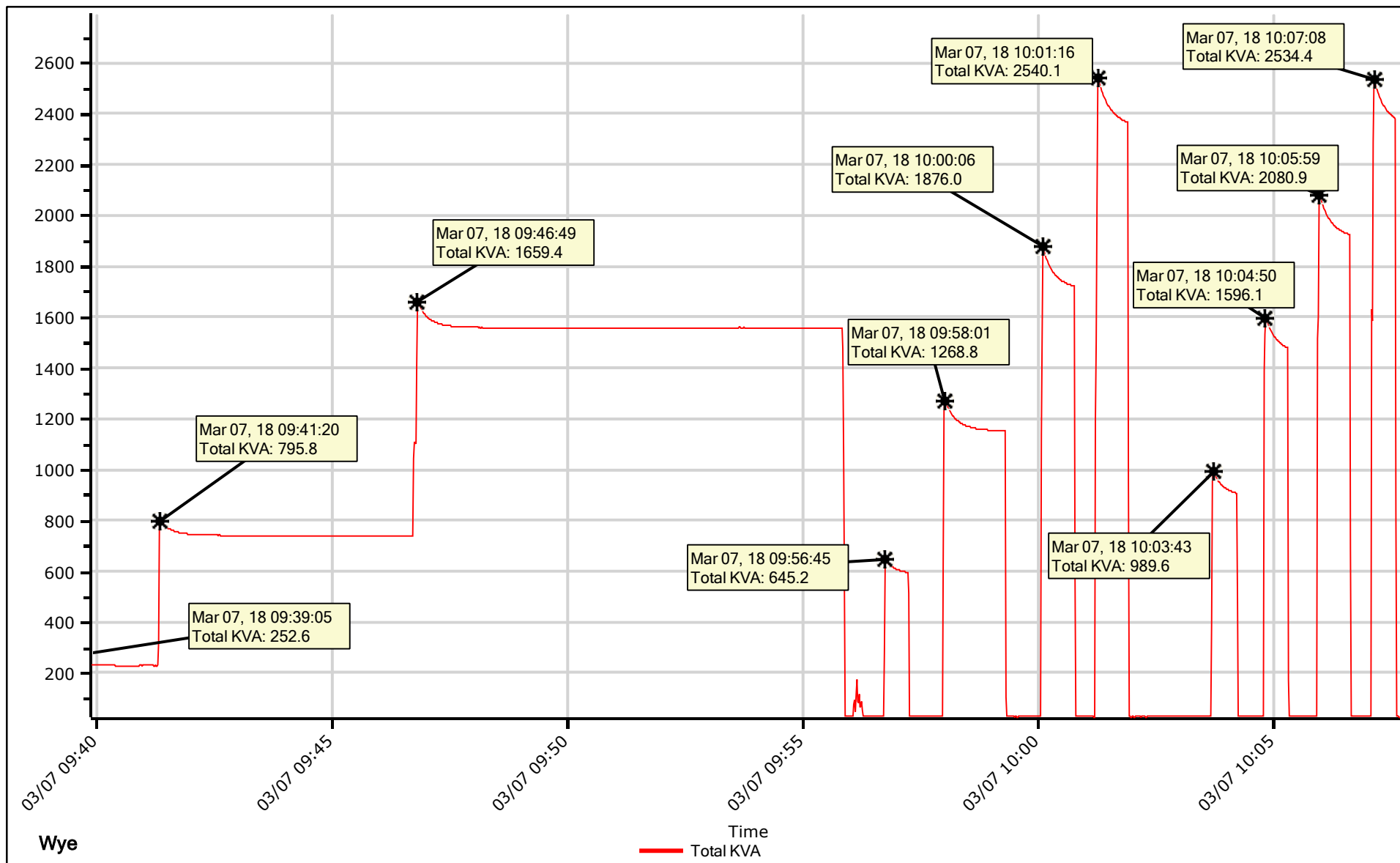




Total KVA

7/16/2018

Demo
Mar 07, 18 09:39 - Mar 07, 18 10:07

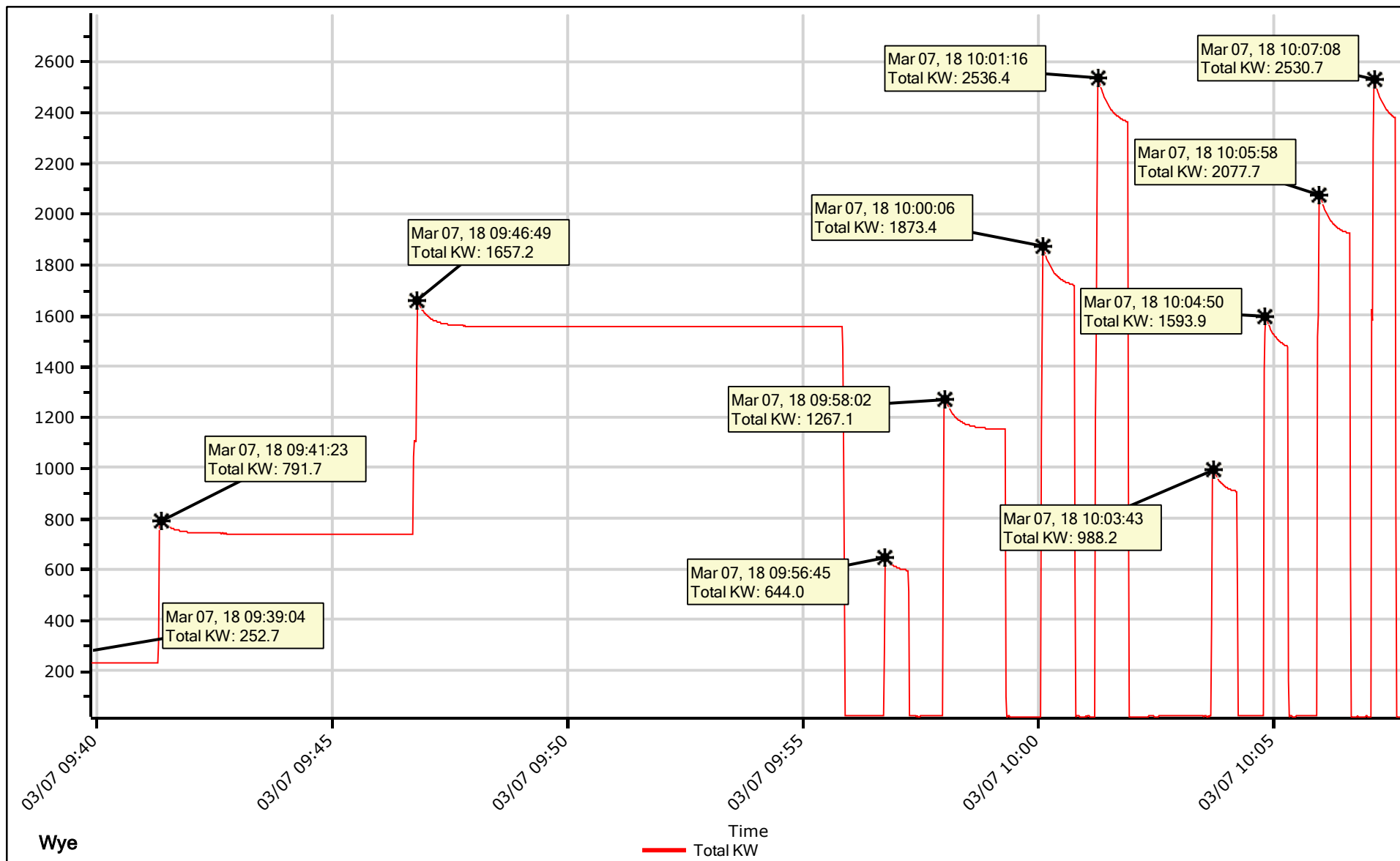




Total KW

7/16/2018

Demo
Mar 07, 18 09:39 - Mar 07, 18 10:07



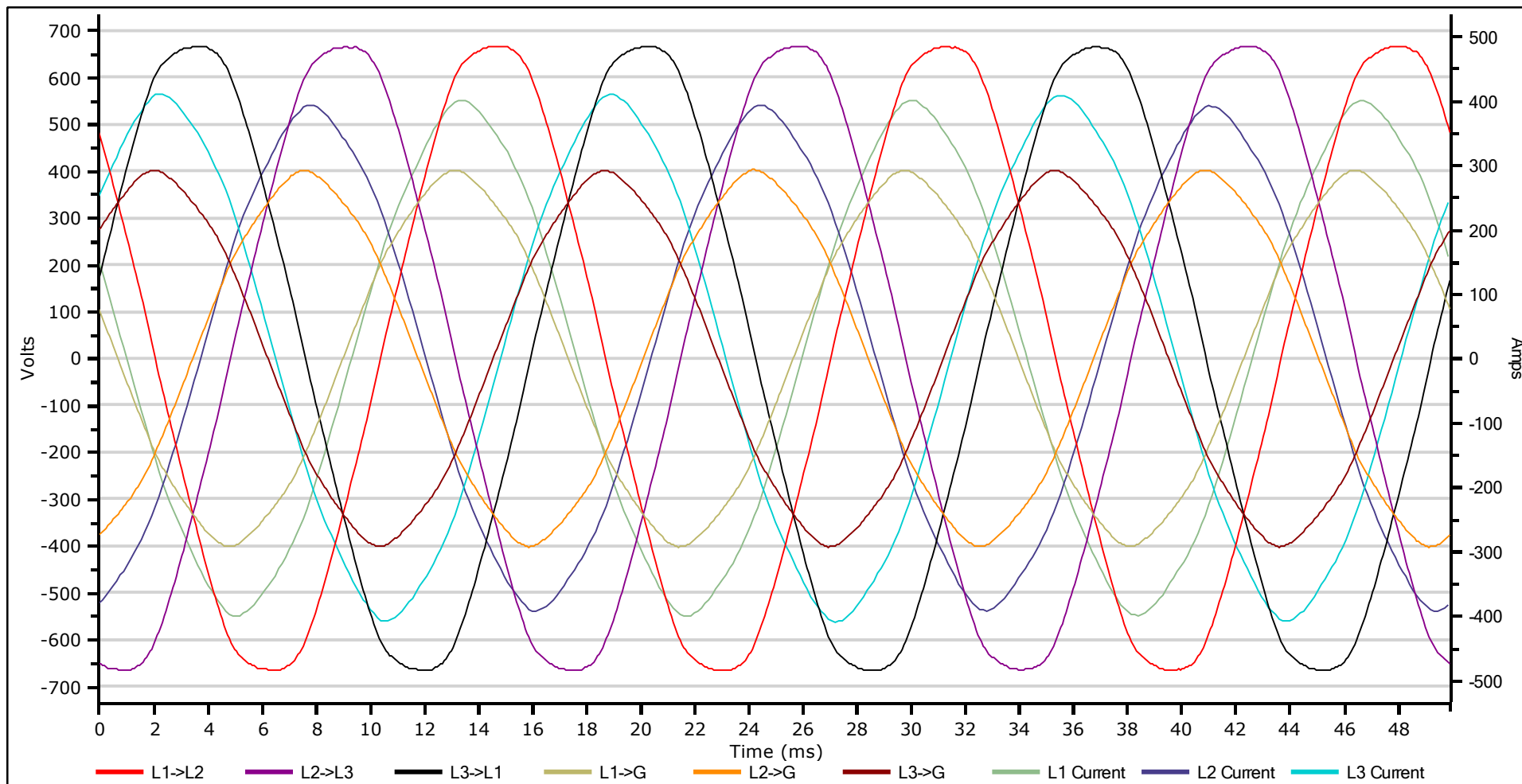


Snapshot

7/16/2018

Demo
Event 1498 - Wednesday, Mar 07, 2018 09:39:37
@ 230KW

Volts Angle: -120.0
Phase Seq: CCW(CBA)



Power:

	L1	L2	L3		L1	L2	L3	Total
RMS V:	278	278	277	KVA:	76.8	75.6	78.6	231
RMS I:	277	272	283	KW:	76.3	75.1	78.1	230
CF V:	1.4	1.5	1.4	KVAR:	9.38	7.91	8.32	25.6
CF I:	1.4	1.4	1.4	PF:	0.993	0.995	0.994	0.994

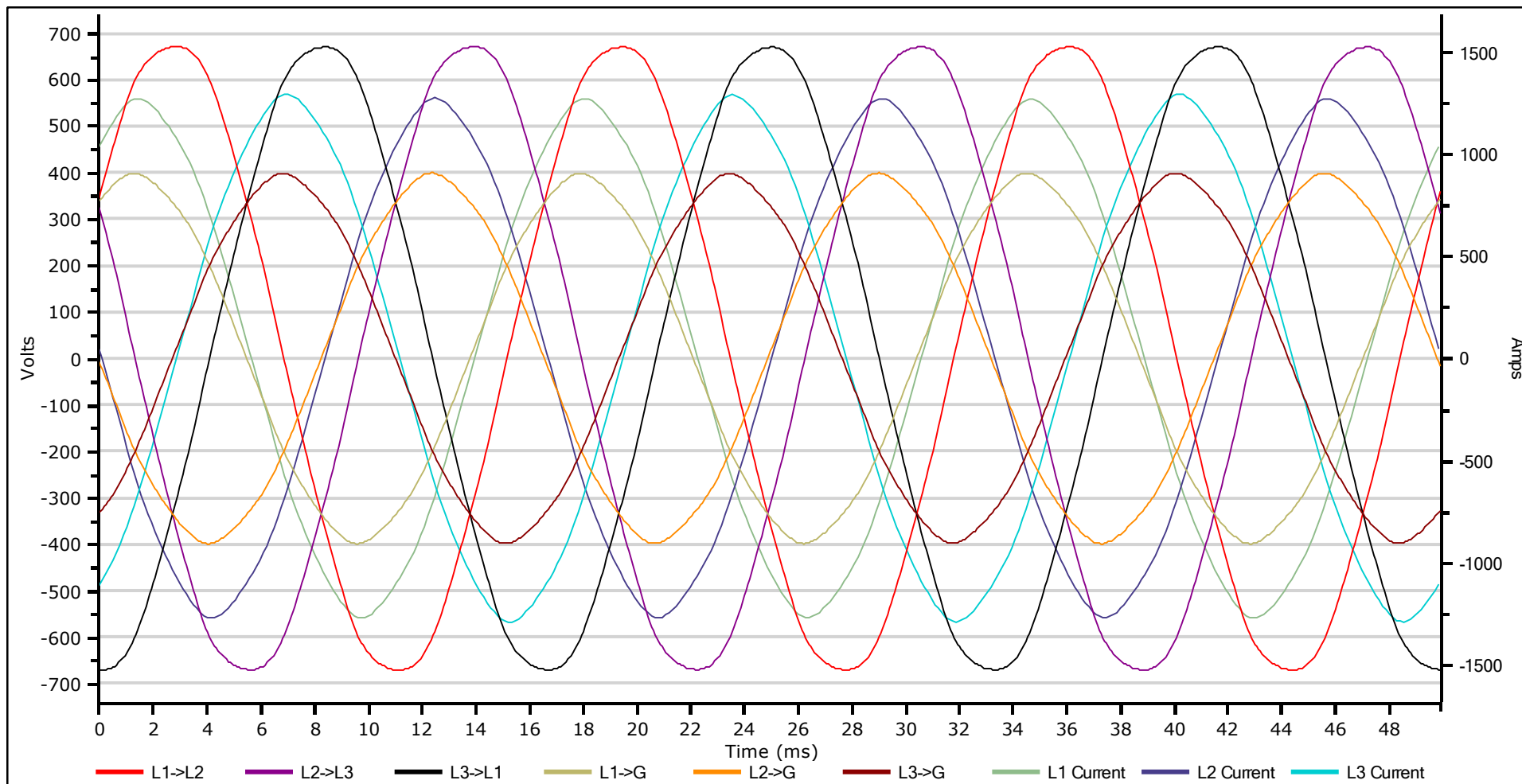


Snapshot

7/16/2018

Demo
Event 1514 - Wednesday, Mar 07, 2018 09:44:37
@ 740KW

Volts Angle: -119.9
Phase Seq: CCW(CBA)



Power:

	L1	L2	L3		L1	L2	L3	Total
RMS V:	278	277	278	KVA:	246	245	250	741
RMS I:	886	885	900	KW:	246	245	250	740
CF V:	1.4	1.4	1.4	KVAR:	16.0	13.2	14.3	43.5
CF I:	1.4	1.4	1.4	PF:	0.998	0.999	0.998	0.998

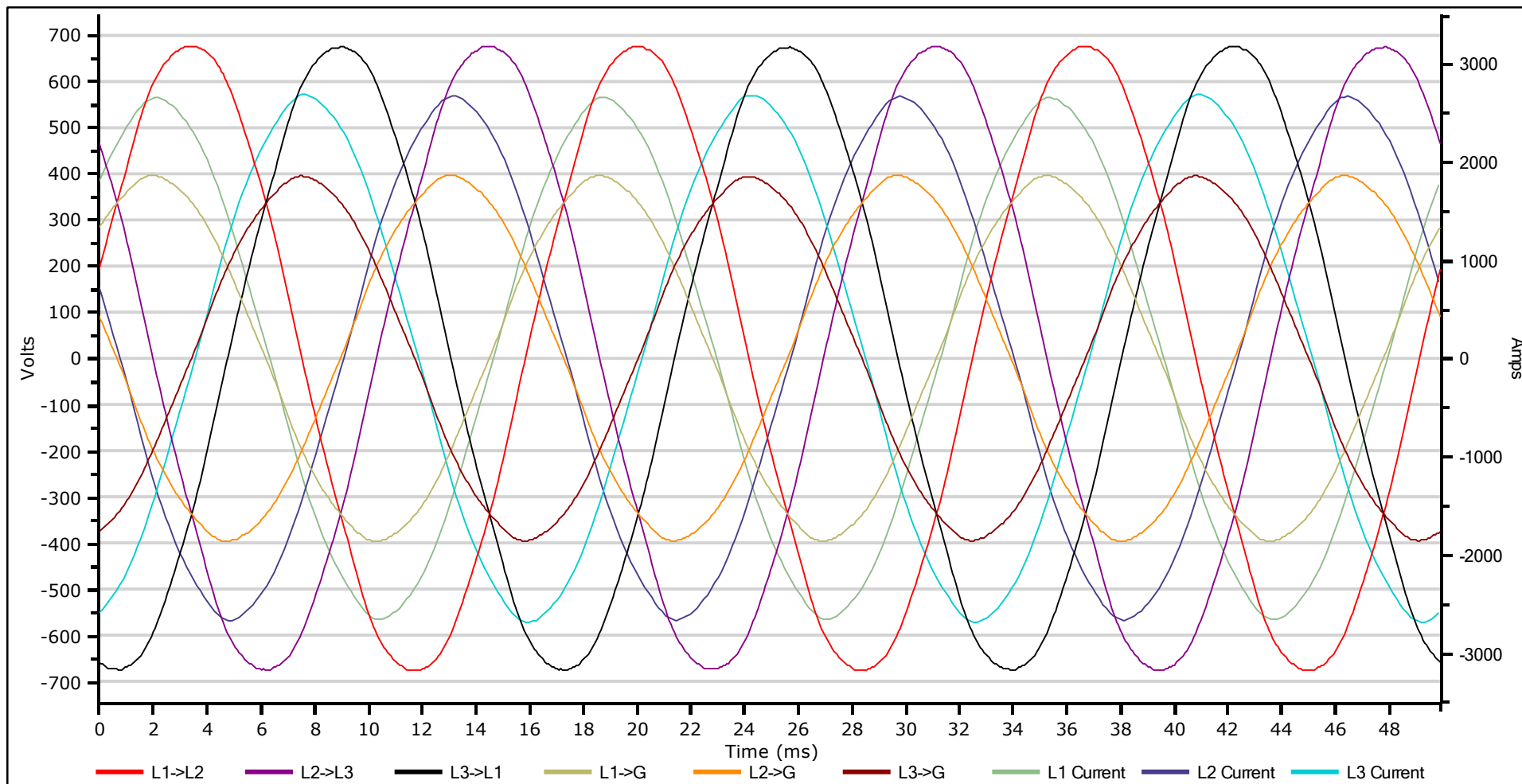


Snapshot

7/16/2018

Demo
Event 1547 - Wednesday, Mar 07, 2018 09:49:37
@1557KW

Volts Angle: -119.9
Phase Seq: CCW(CBA)



Power:

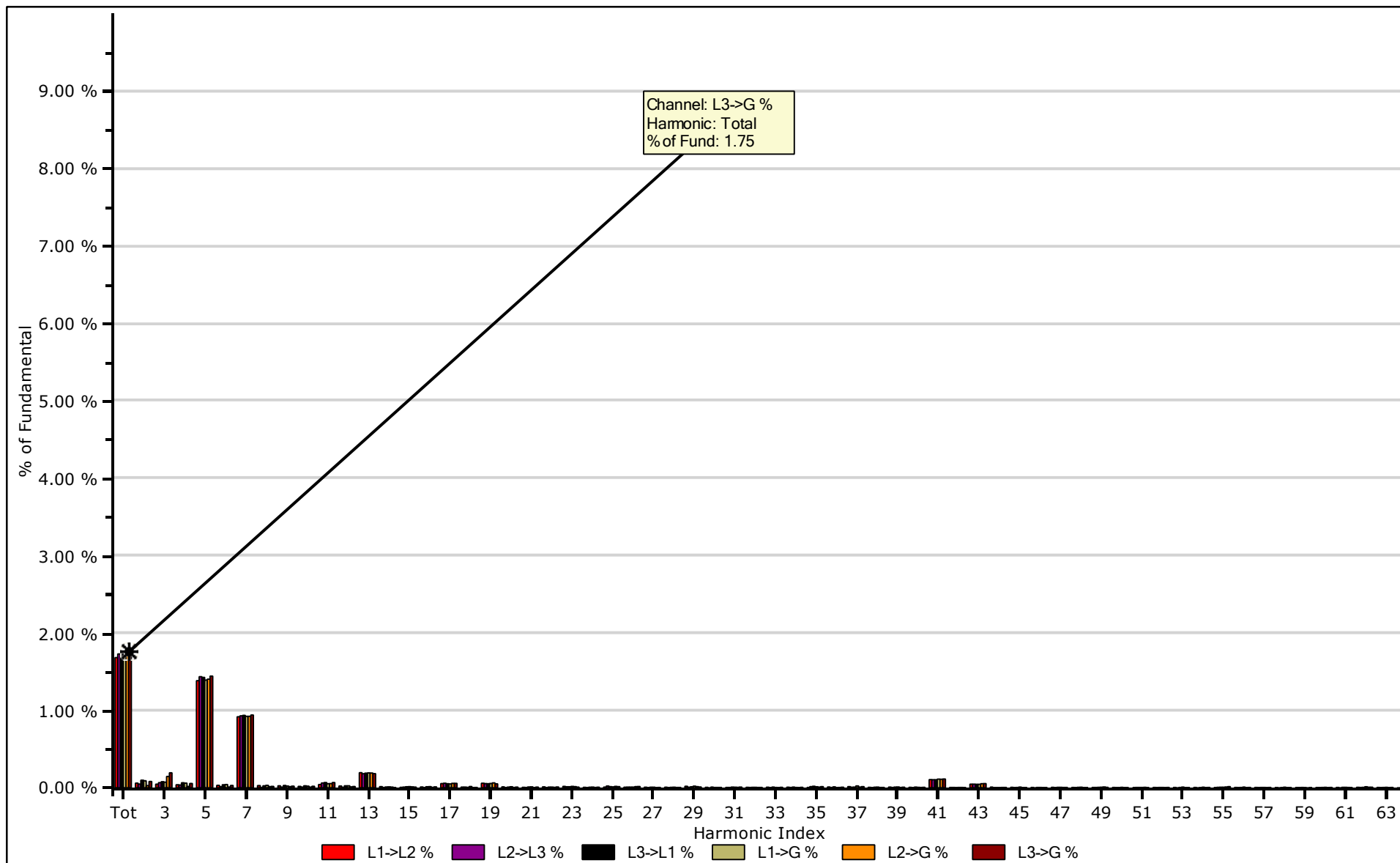
	L1	L2	L3		L1	L2	L3	Total
RMS V:	278	278	277	KVA:	518	519	523	1559
RMS I:	1863	1869	1887	KW:	517	518	523	1557
CF V:	1.4	1.4	1.4	KVAR:	29.1	23.3	26.8	79.2
CF I:	1.4	1.4	1.4	PF:	0.998	0.999	0.999	0.999



Snapshot Harmonics

7/16/2018

Demo
Event 1498 - Wednesday, Mar 07, 2018 09:39:37
@ 230KW

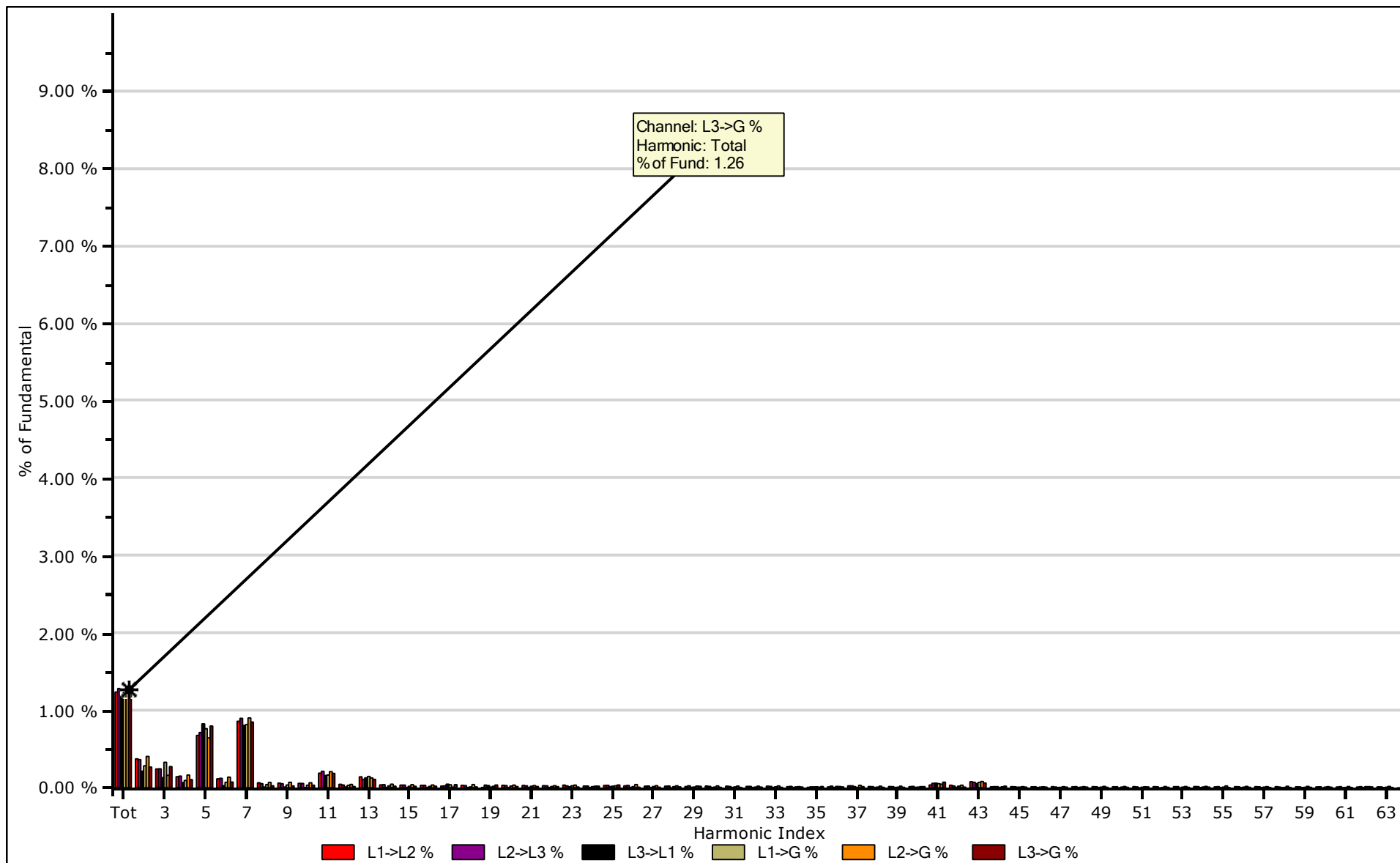




Snapshot Harmonics

7/16/2018

Demo
Event 1514 - Wednesday, Mar 07, 2018 09:44:37
@ 740KW

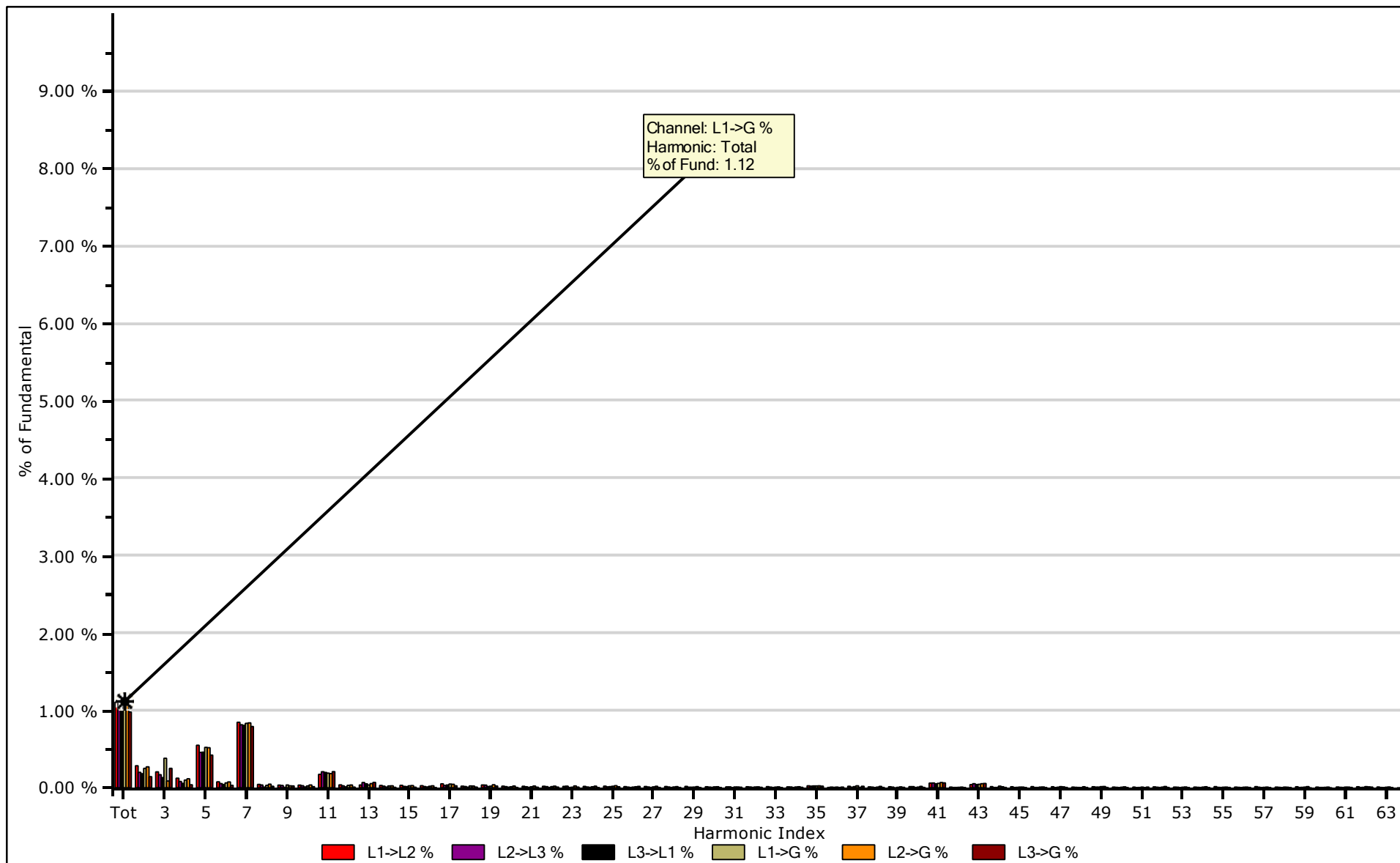




Snapshot Harmonics

7/16/2018

Demo
Event 1547 - Wednesday, Mar 07, 2018 09:49:37
@1557KW

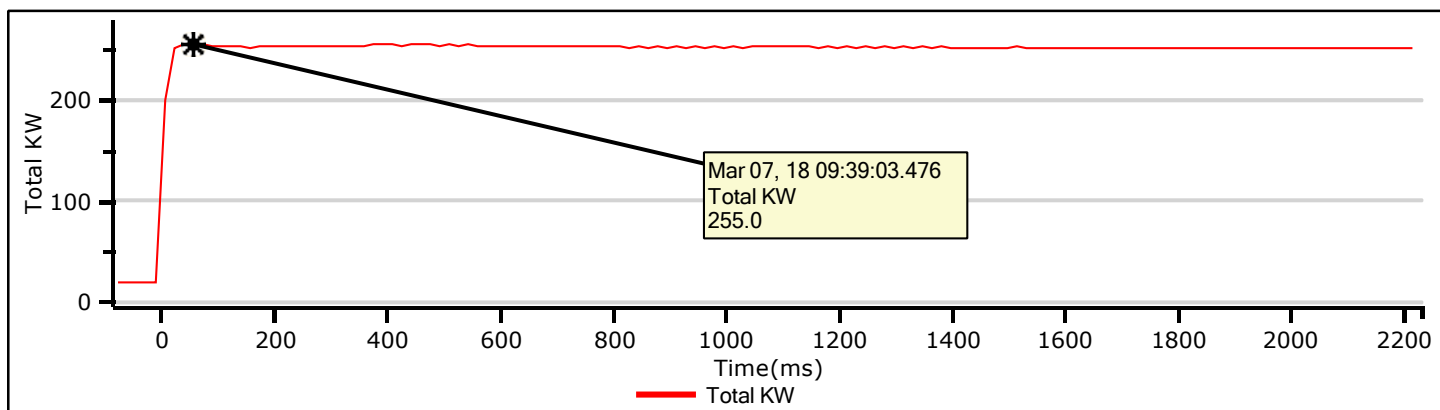
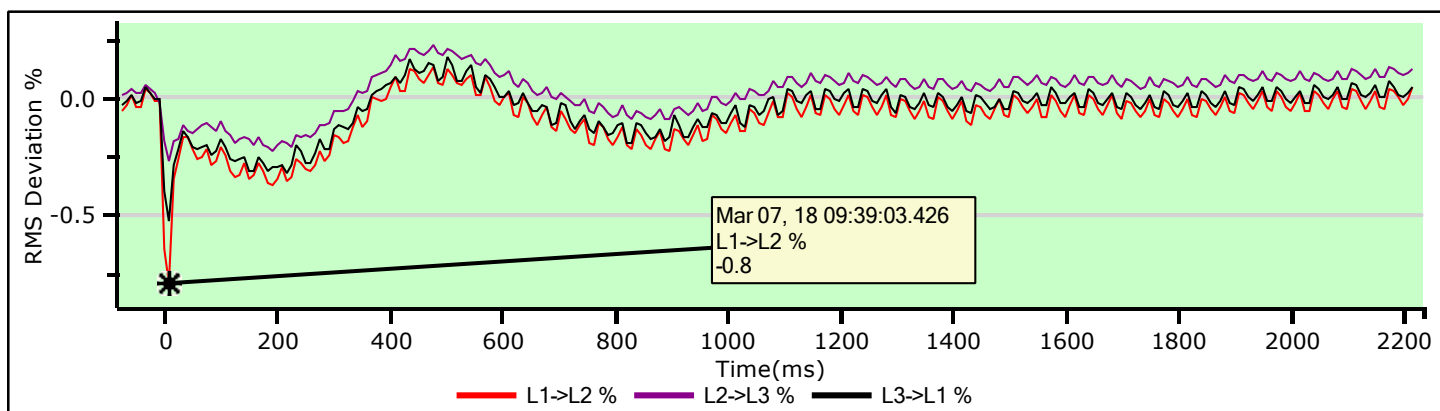
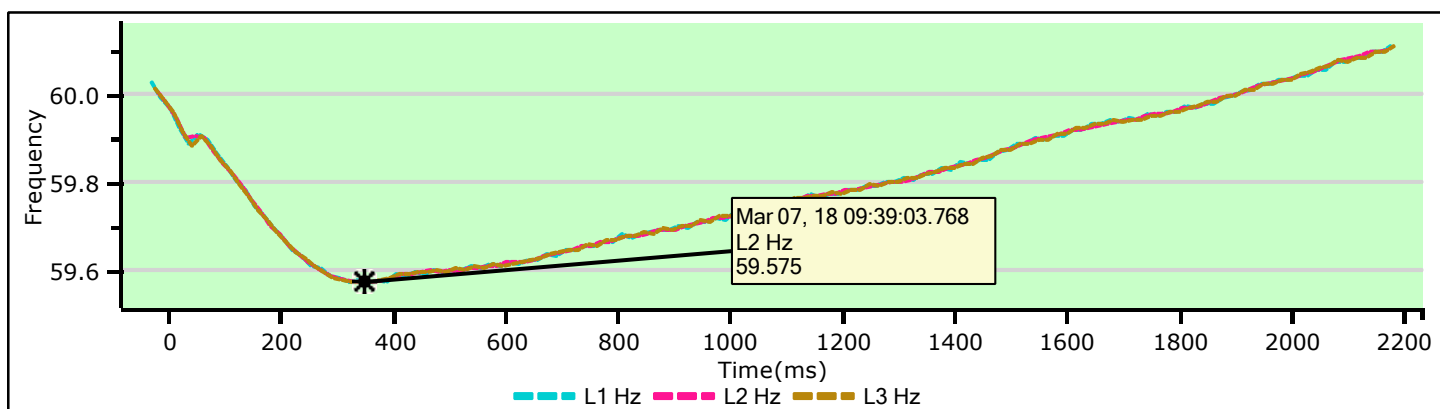
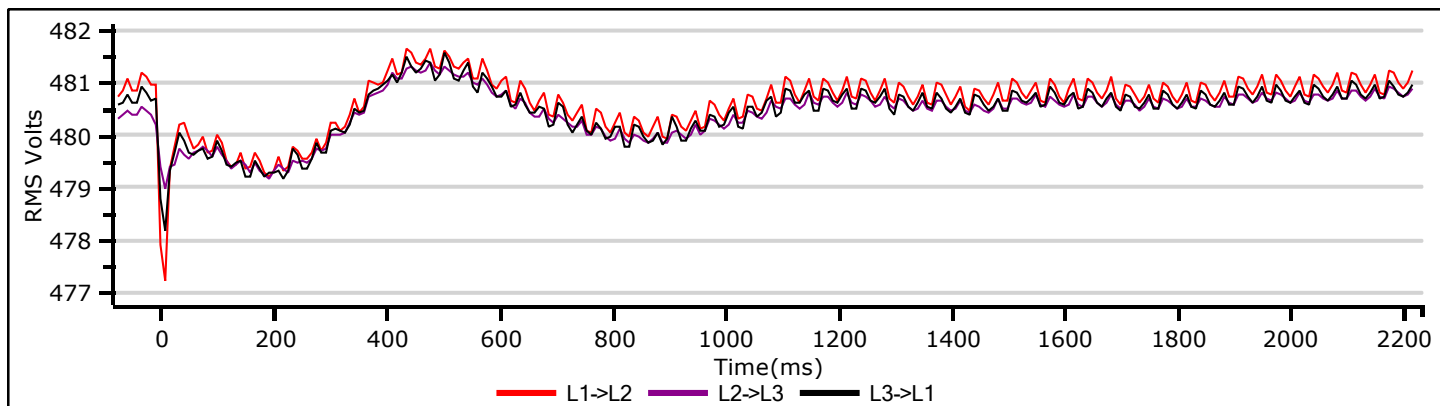




Transient Response

7/16/2018

Demo
Event 1494 - Wednesday, Mar 07, 2018 09:39:03
0 - 10%

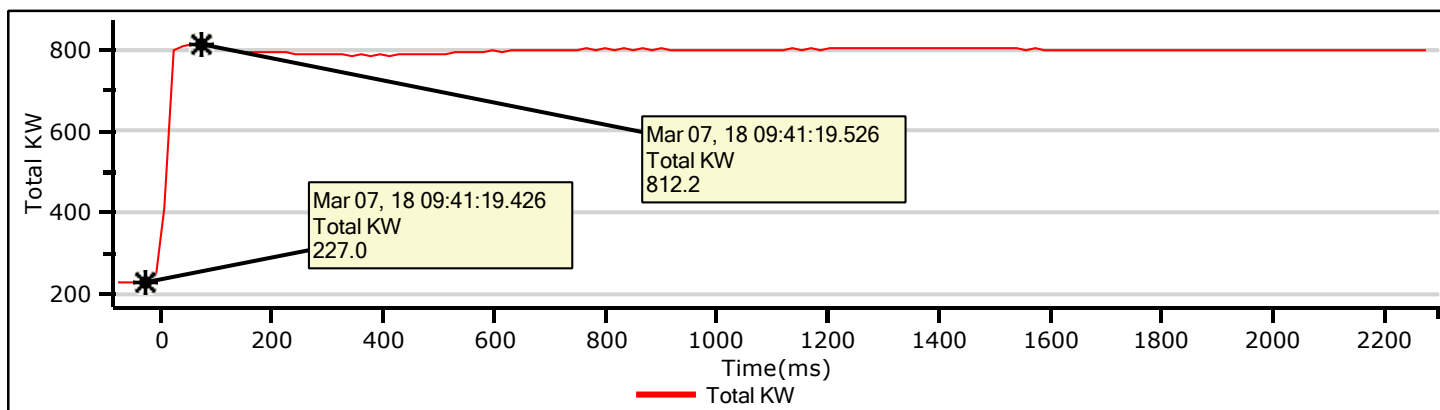
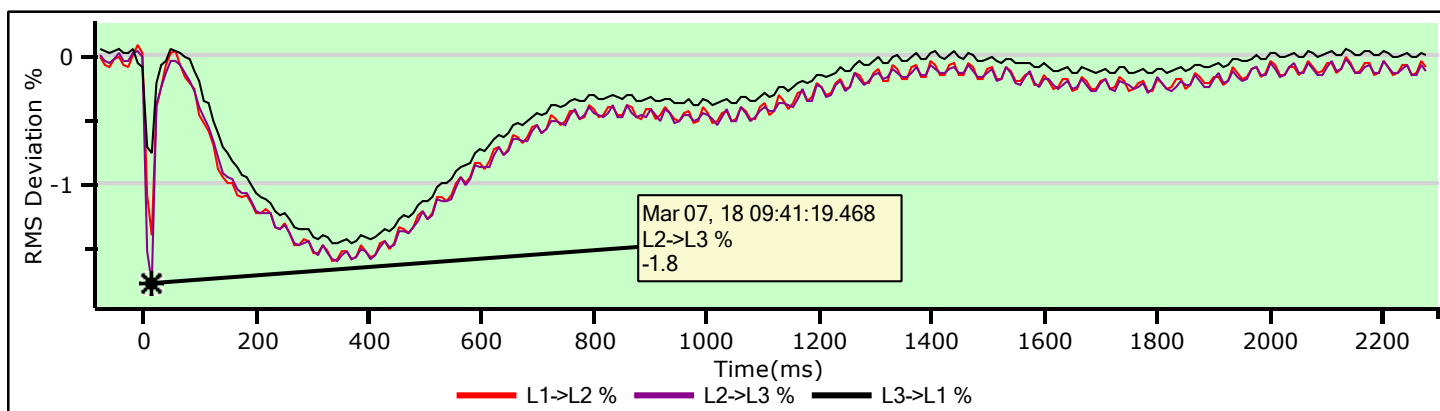
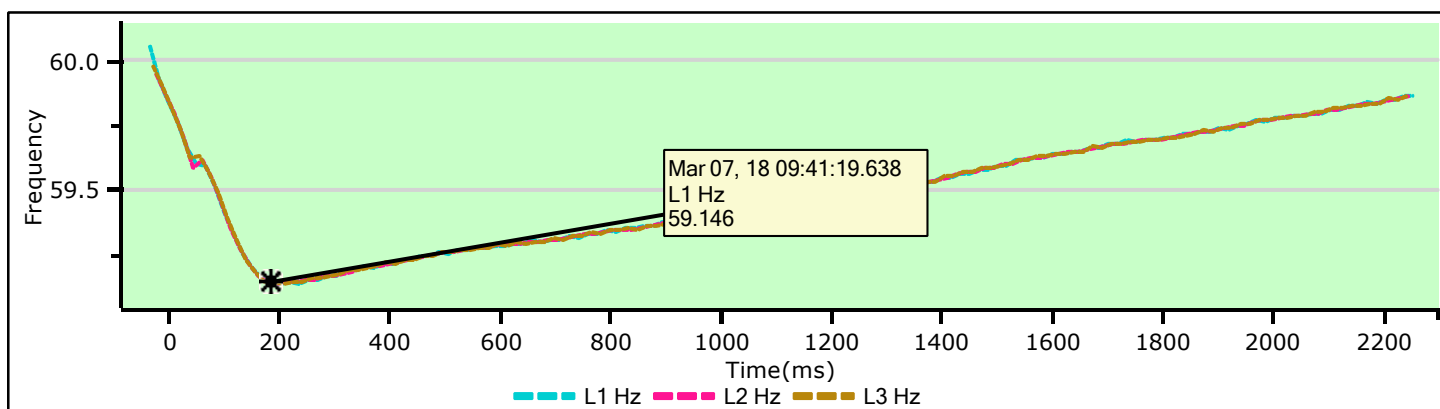
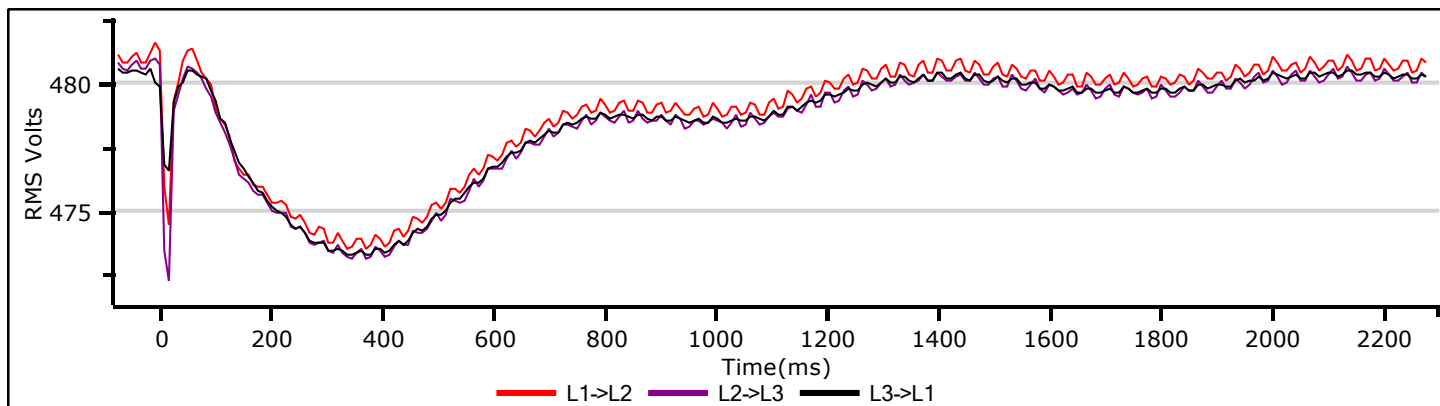




Transient Response

7/16/2018

Demo
Event 1510 - Wednesday, Mar 07, 2018 09:41:19
10 - 32%

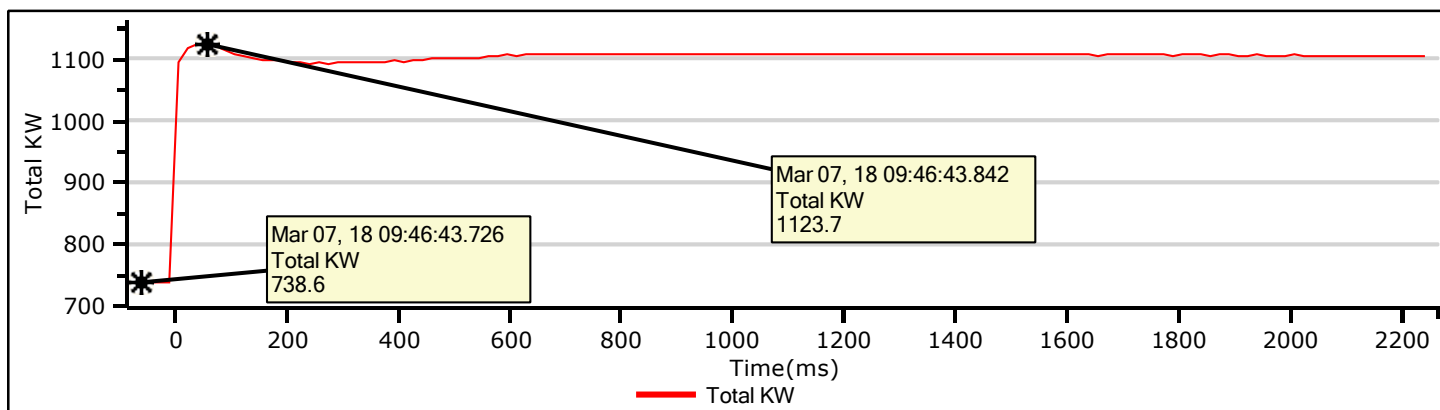
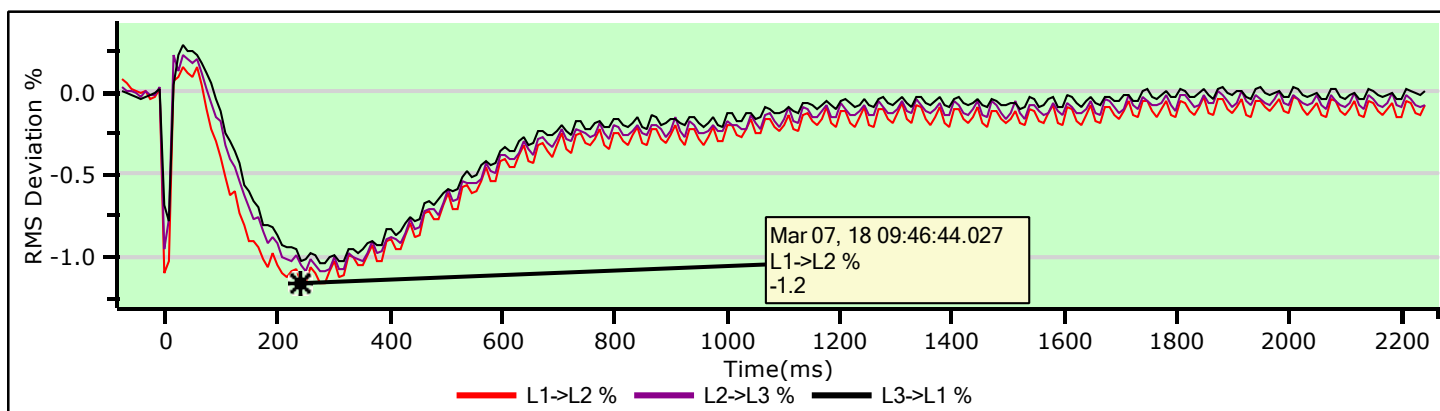
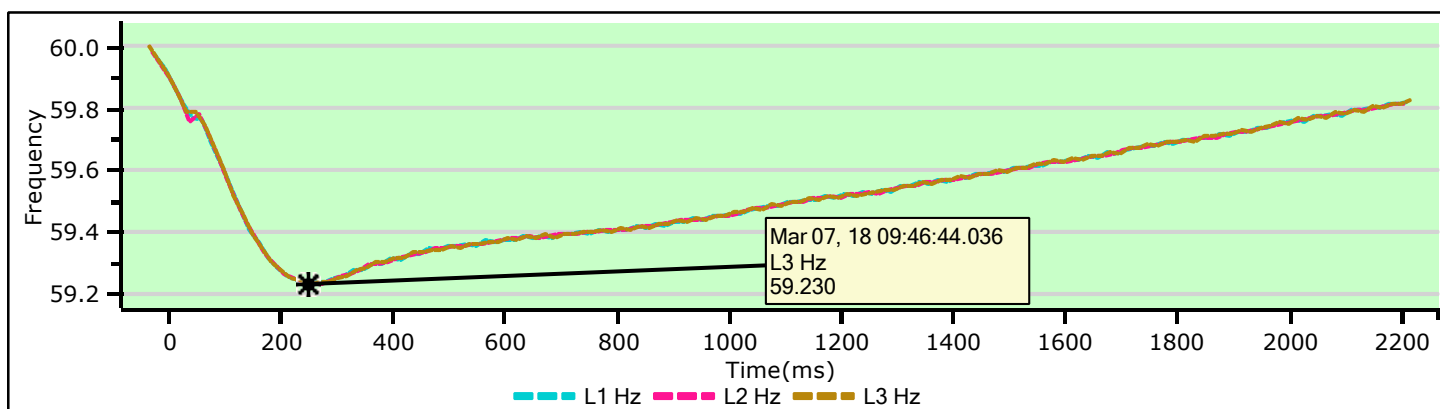
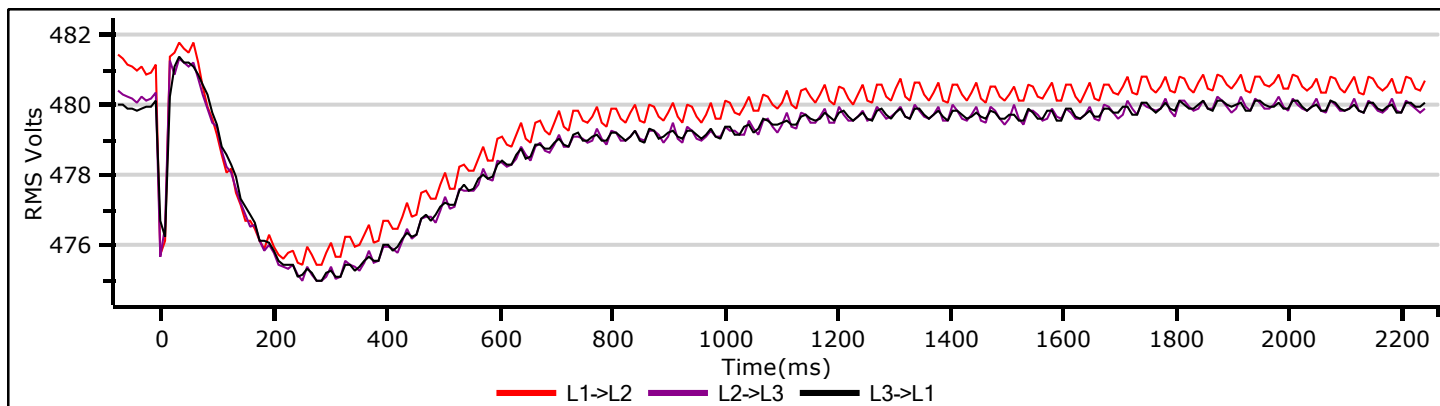




Transient Response

7/16/2018

Demo
Event 1525 - Wednesday, Mar 07, 2018 09:46:43
30 - 45%

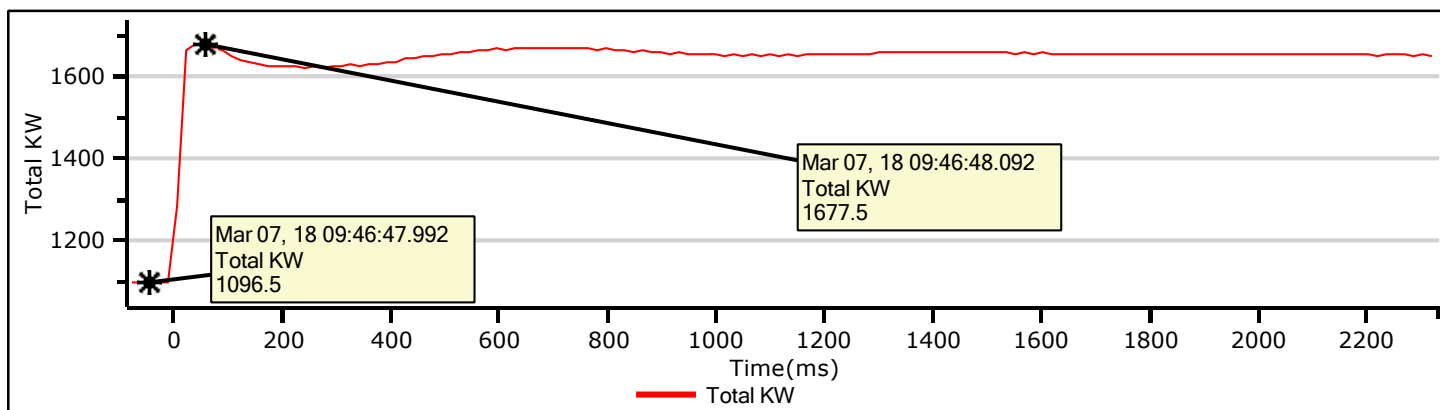
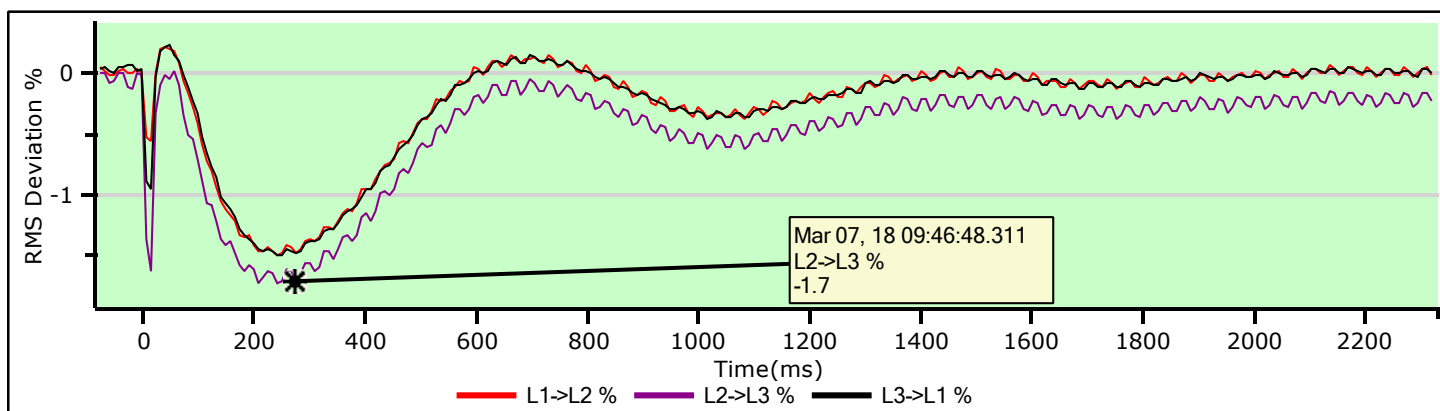
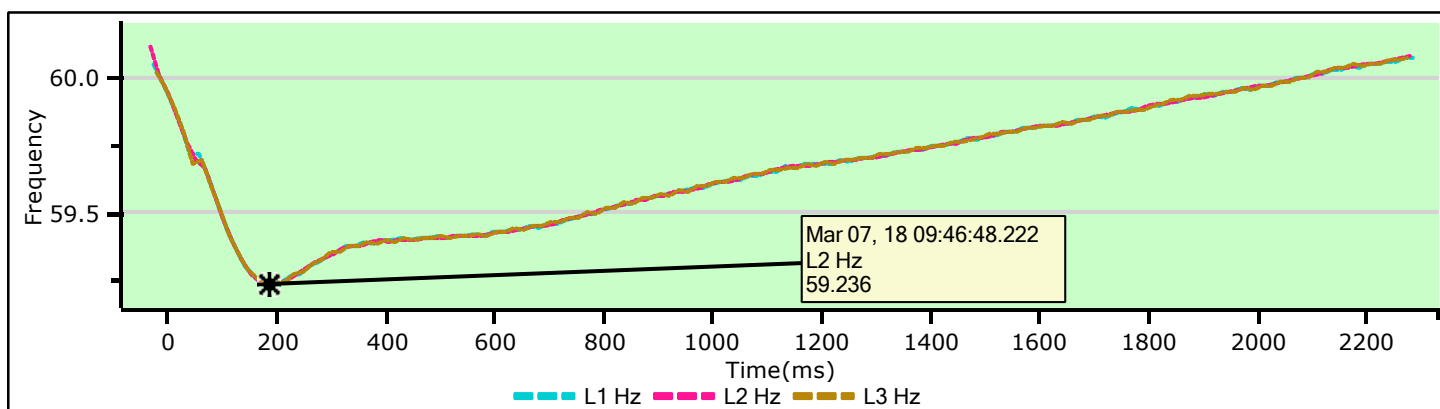
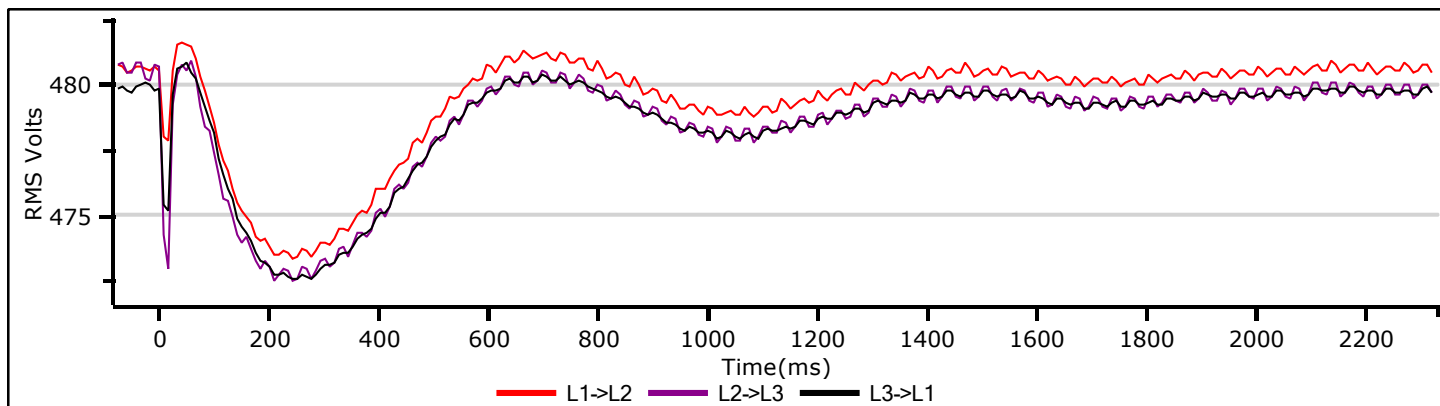




Transient Response

7/16/2018

Demo
Event 1535 - Wednesday, Mar 07, 2018 09:46:48
40 - 65%

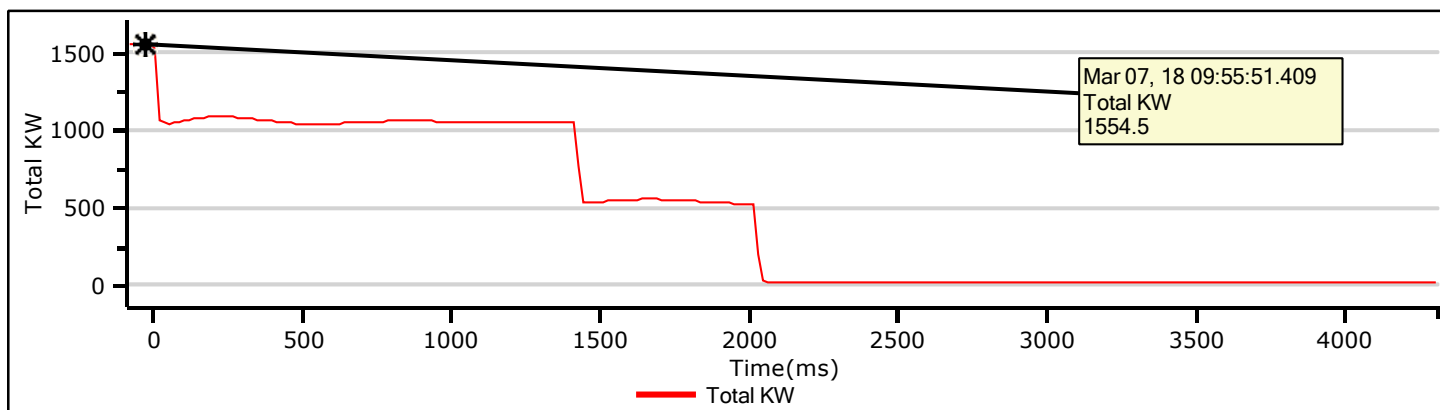
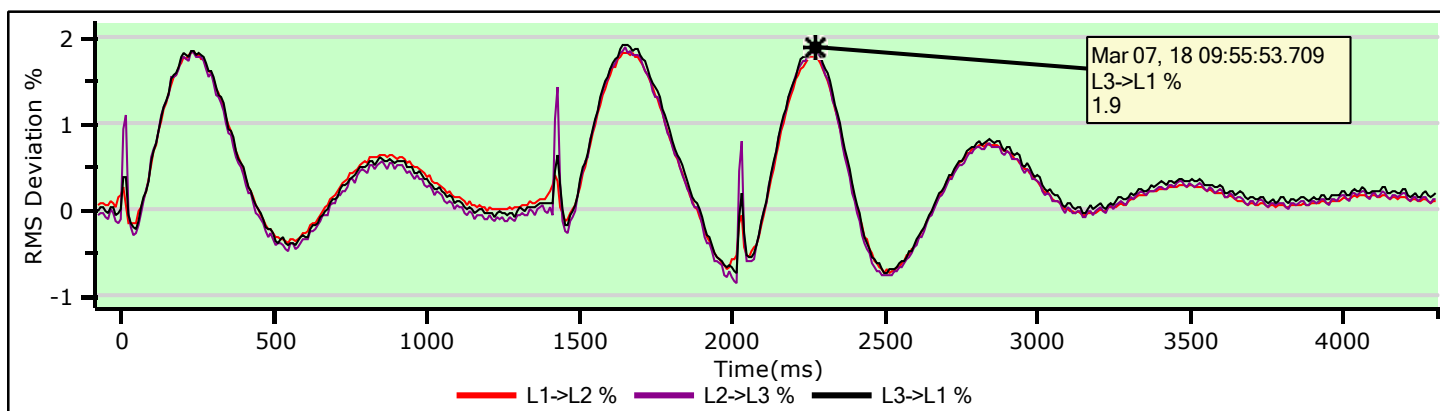
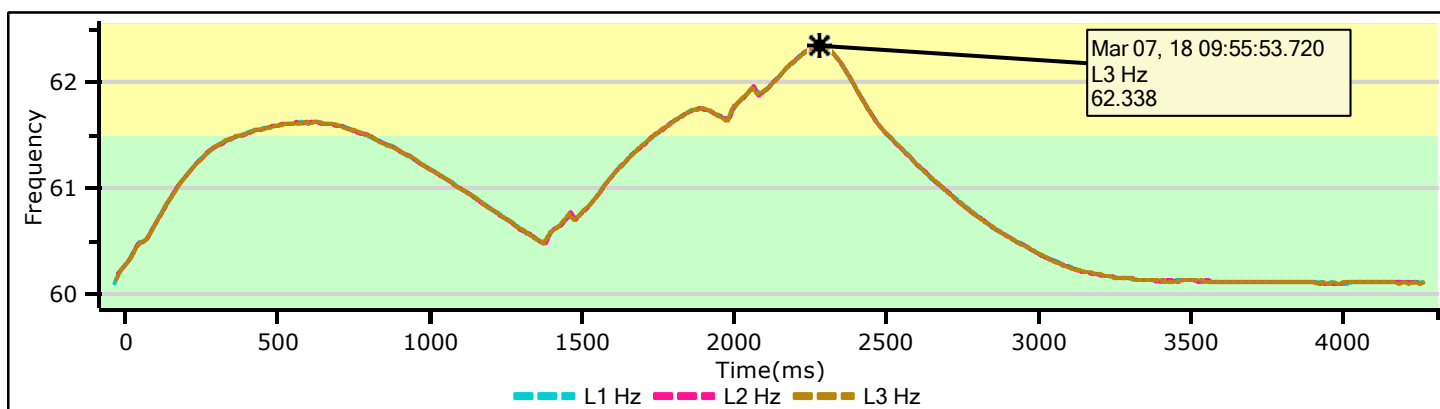
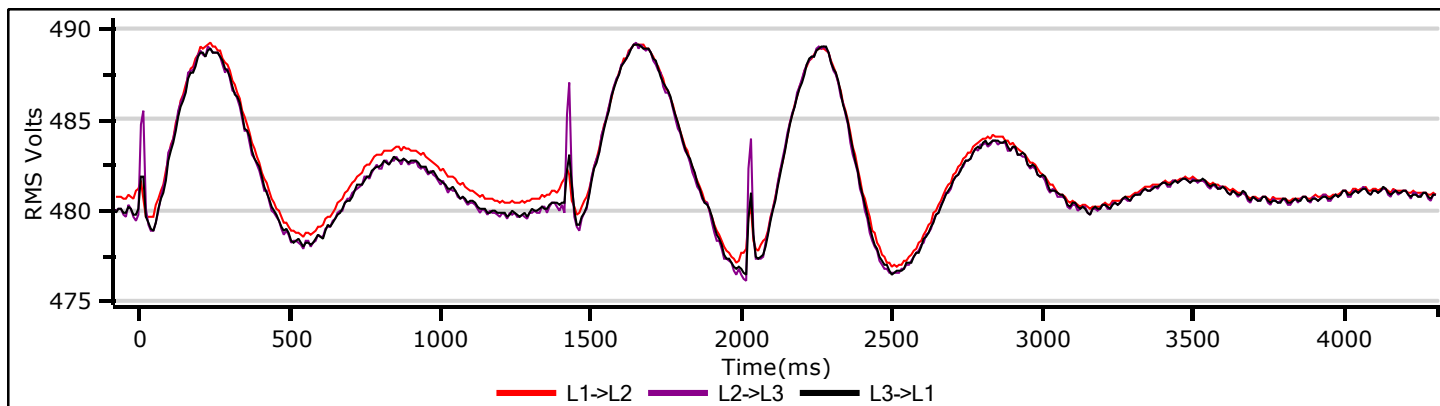




Transient Response

7/16/2018

Demo
Event 1553 - Wednesday, Mar 07, 2018 09:55:51
60 - 0%

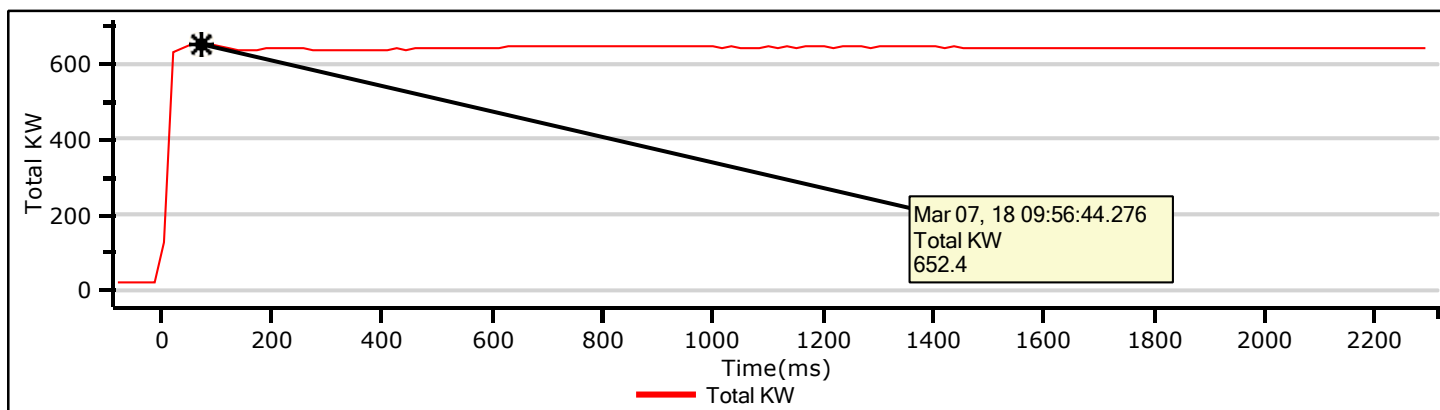
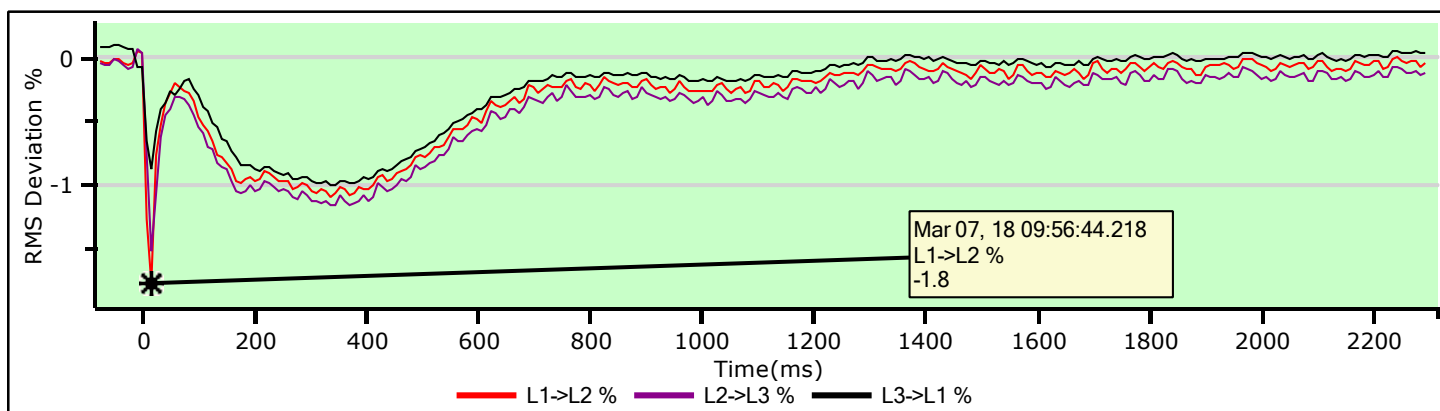
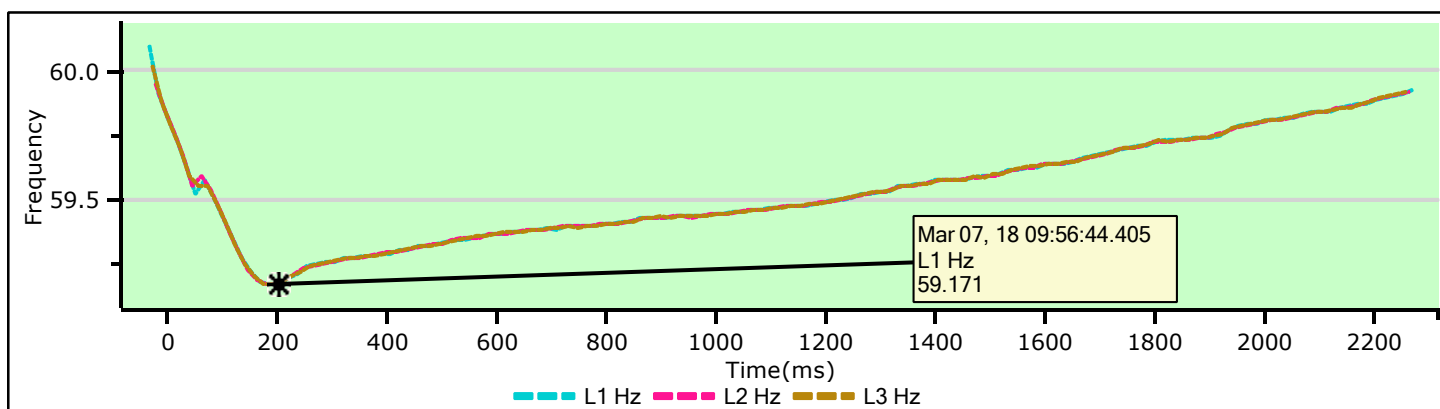
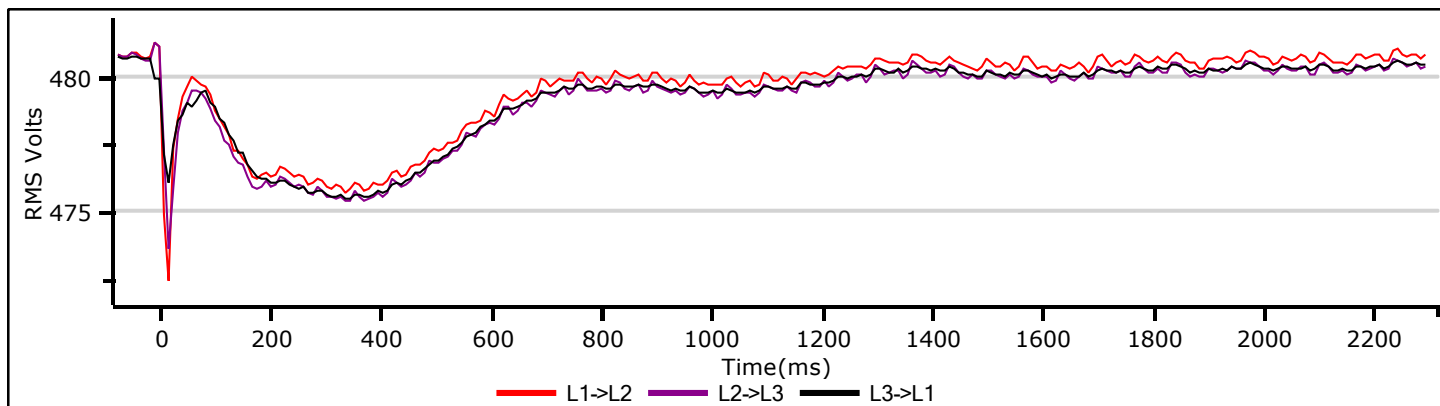




Transient Response

7/16/2018

Demo
Event 1710 - Wednesday, Mar 07, 2018 09:56:44
0 - 25%

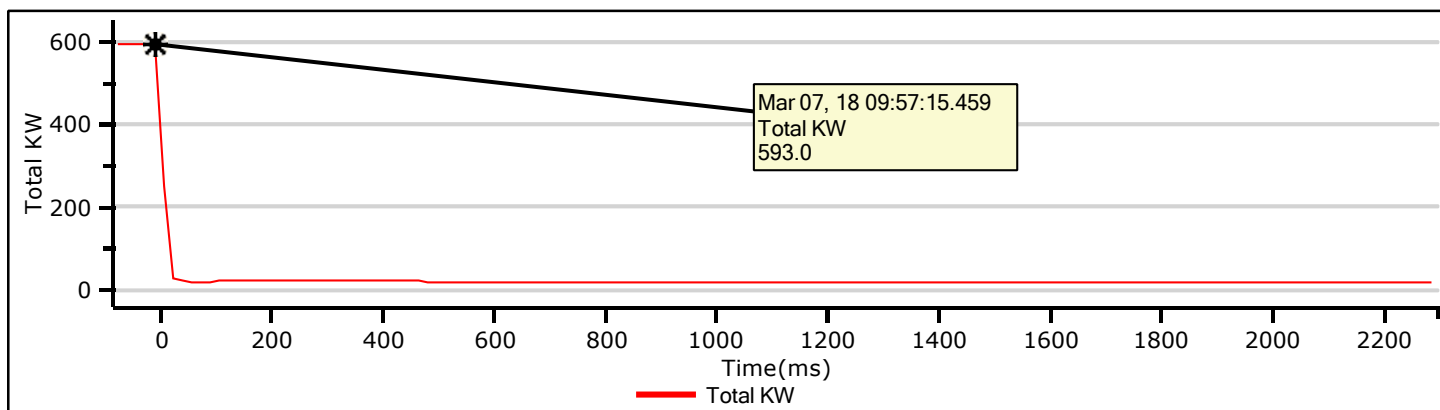
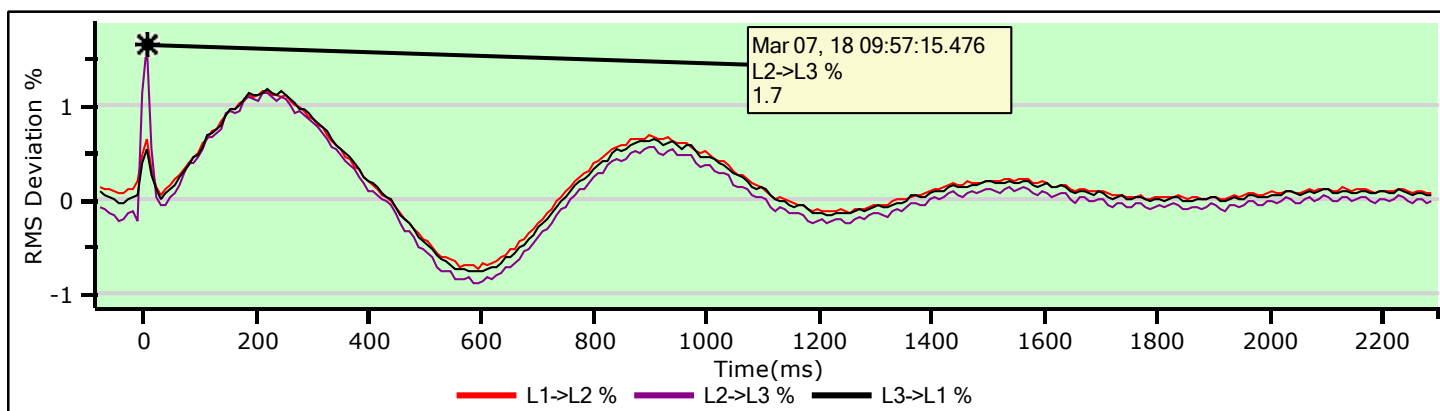
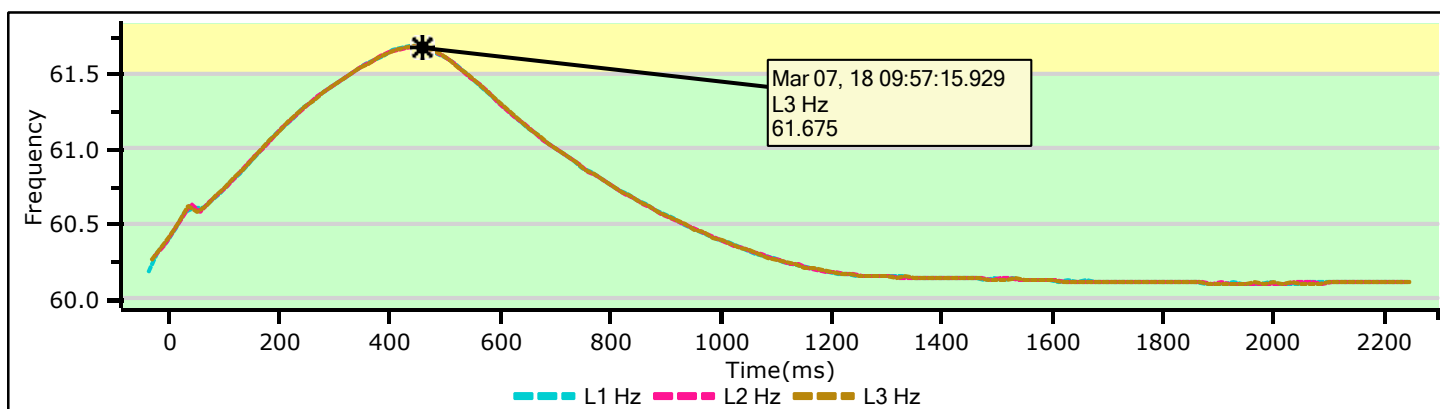
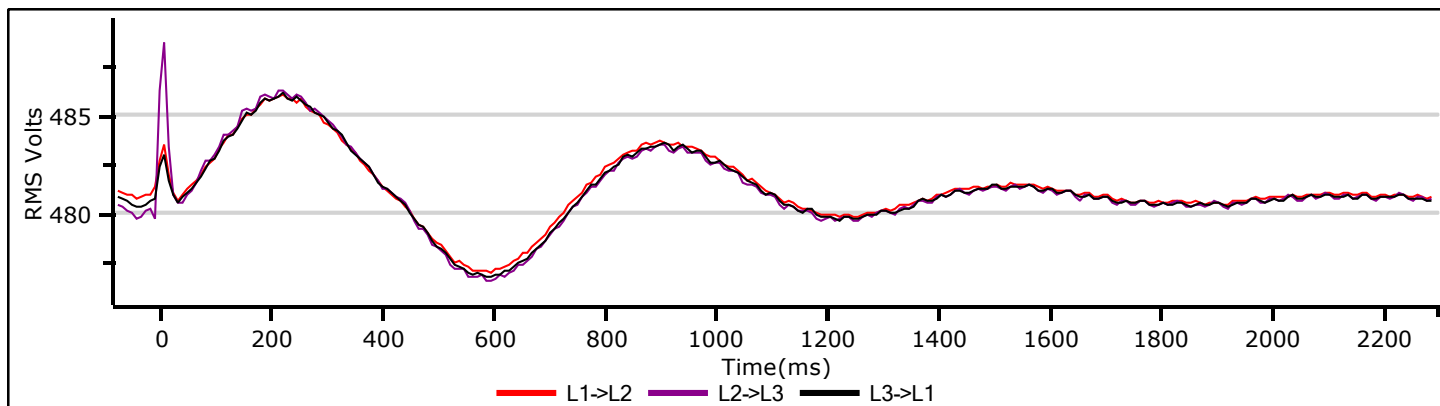




Transient Response

7/16/2018

Demo
Event 1714 - Wednesday, Mar 07, 2018 09:57:15
25 - 0%

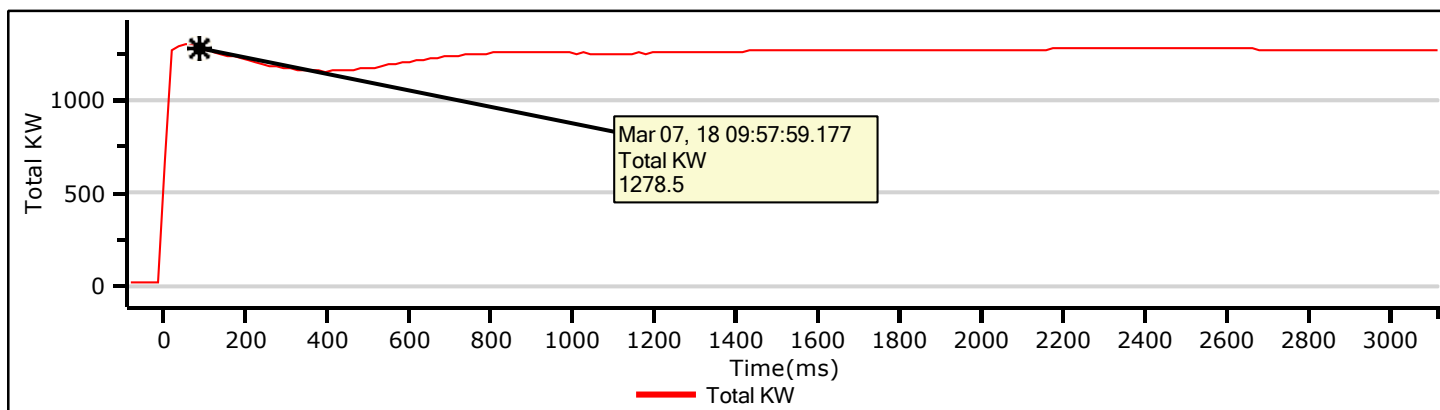
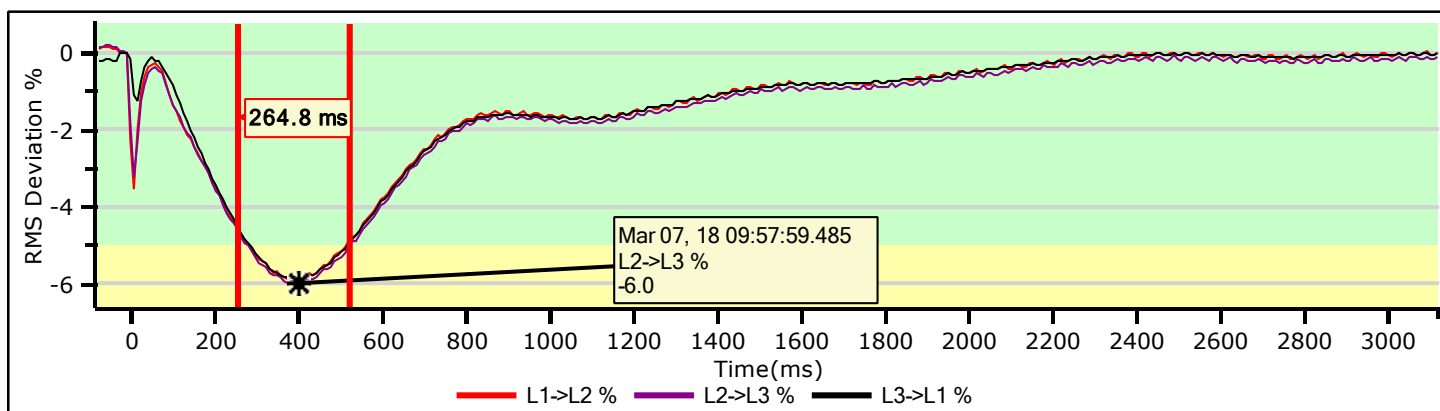
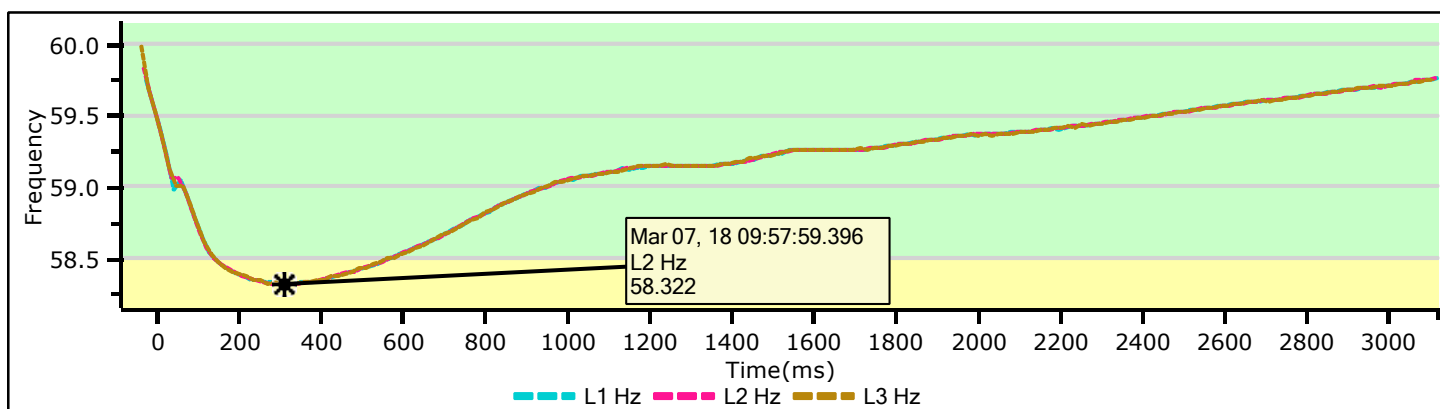
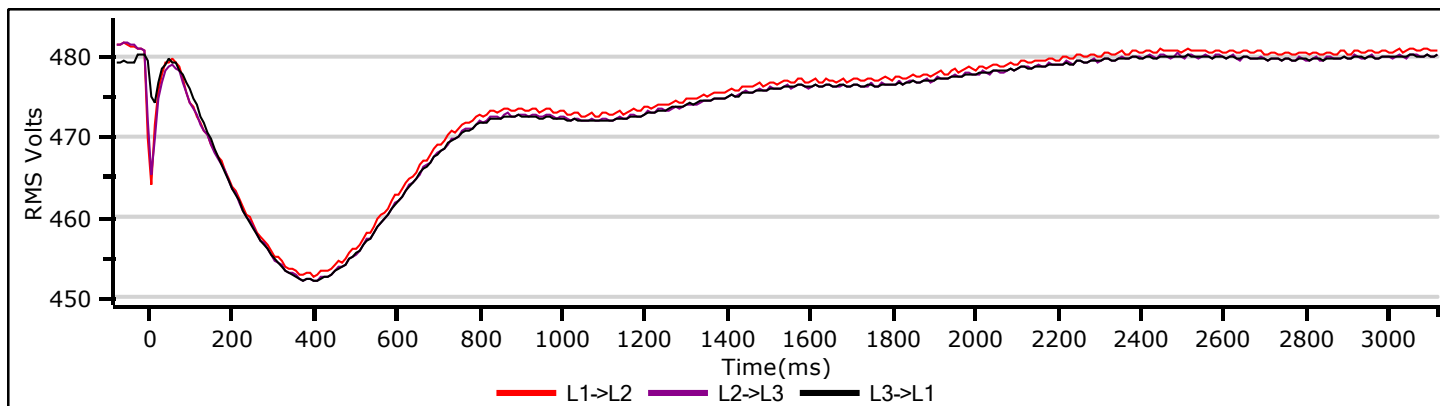




Transient Response

7/16/2018

Demo
Event 1780 - Wednesday, Mar 07, 2018 09:57:59
0 - 50%

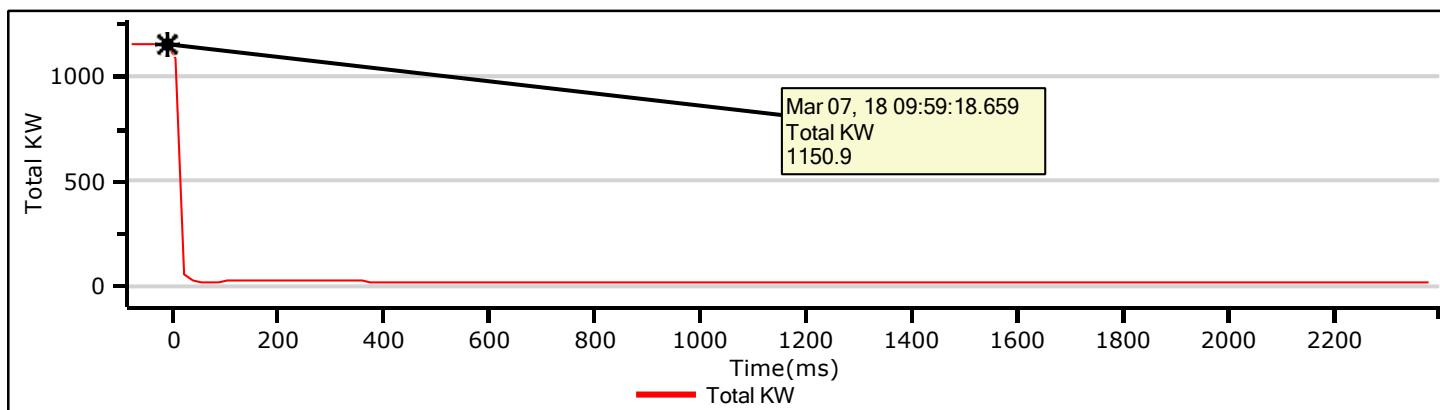
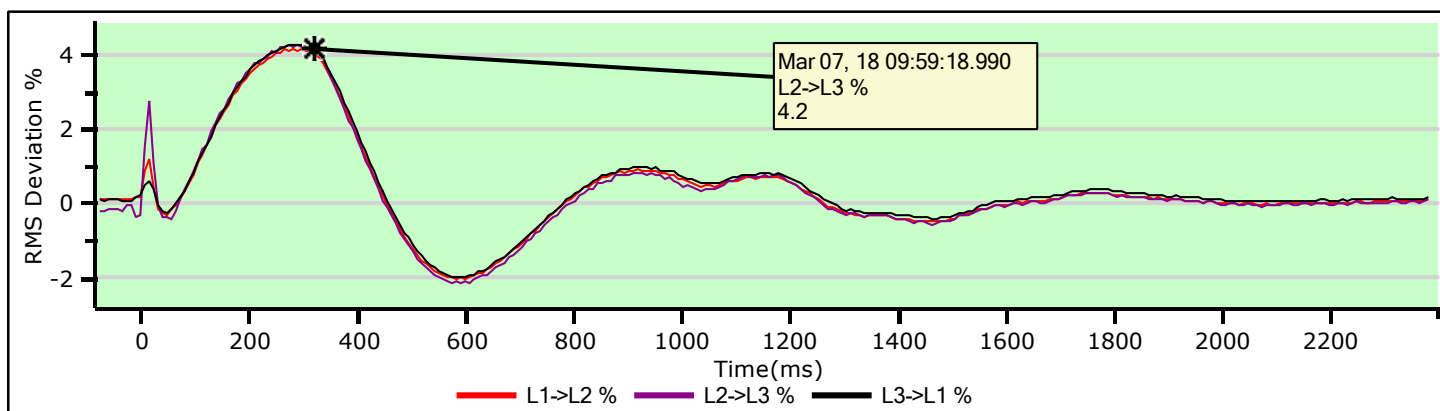
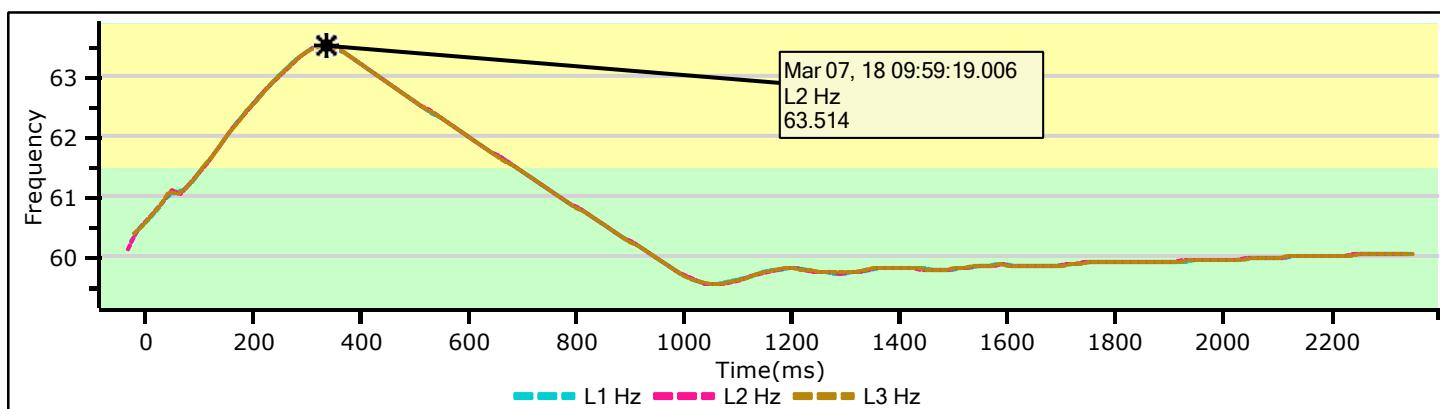
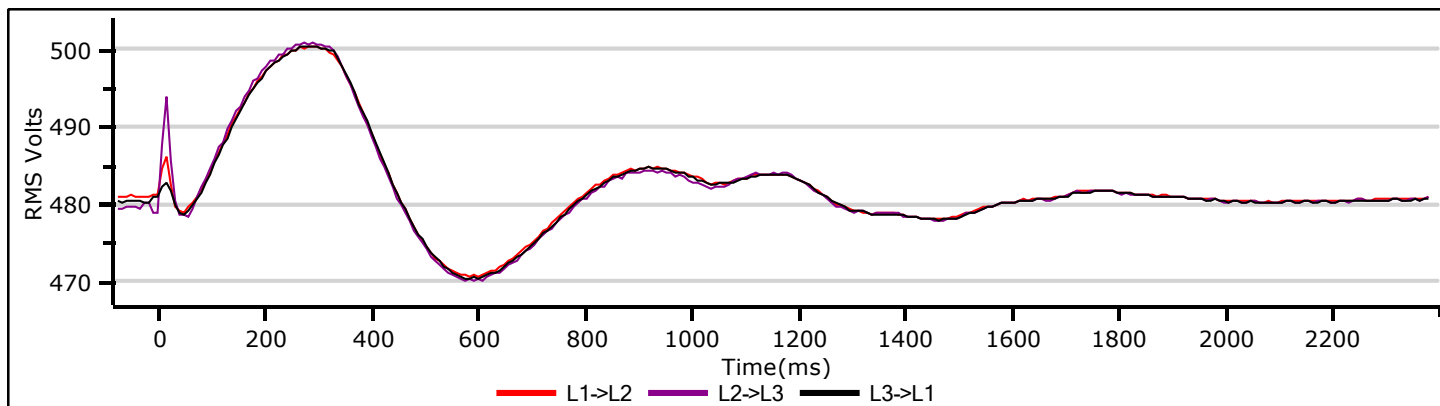




Transient Response

7/16/2018

Demo
Event 1860 - Wednesday, Mar 07, 2018 09:59:18
50 - 0%

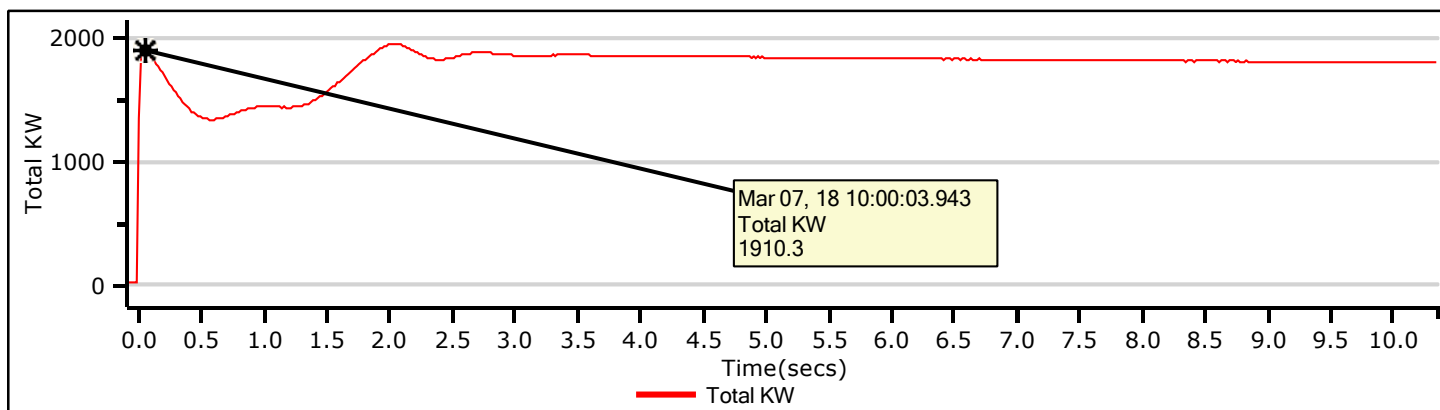
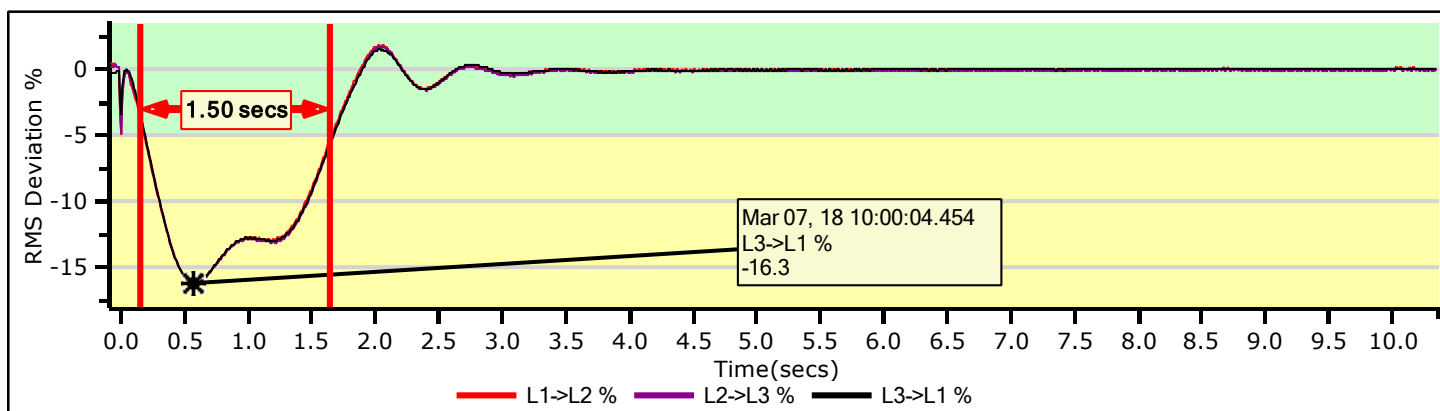
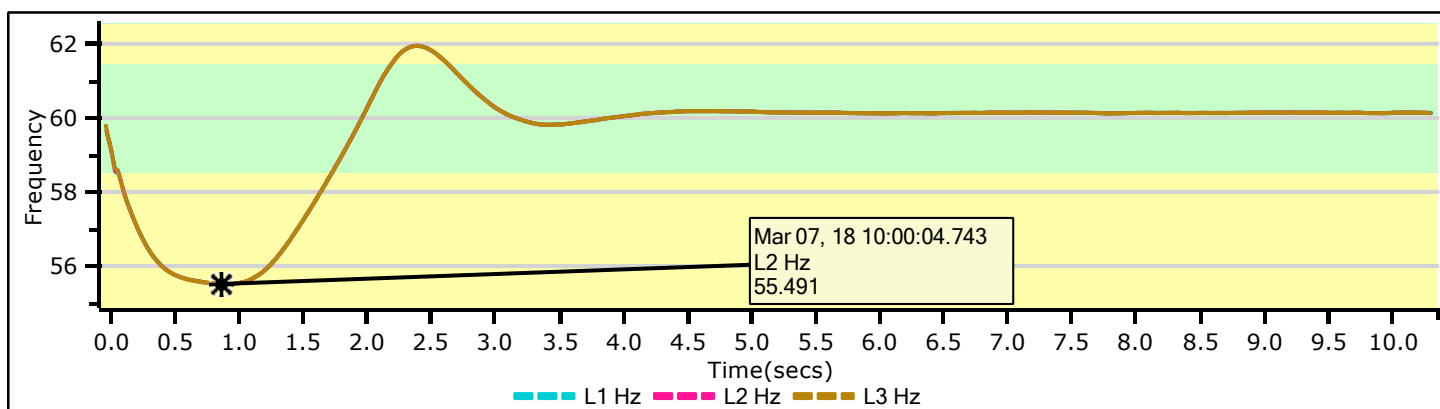
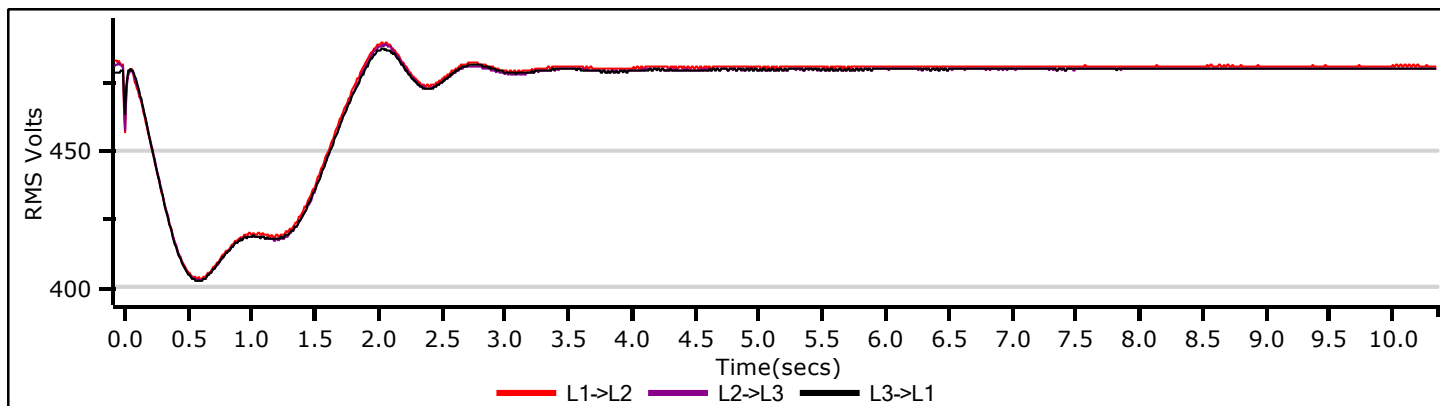




Transient Response

7/16/2018

Demo
Event 1929 - Wednesday, Mar 07, 2018 10:00:03
0 - 75%

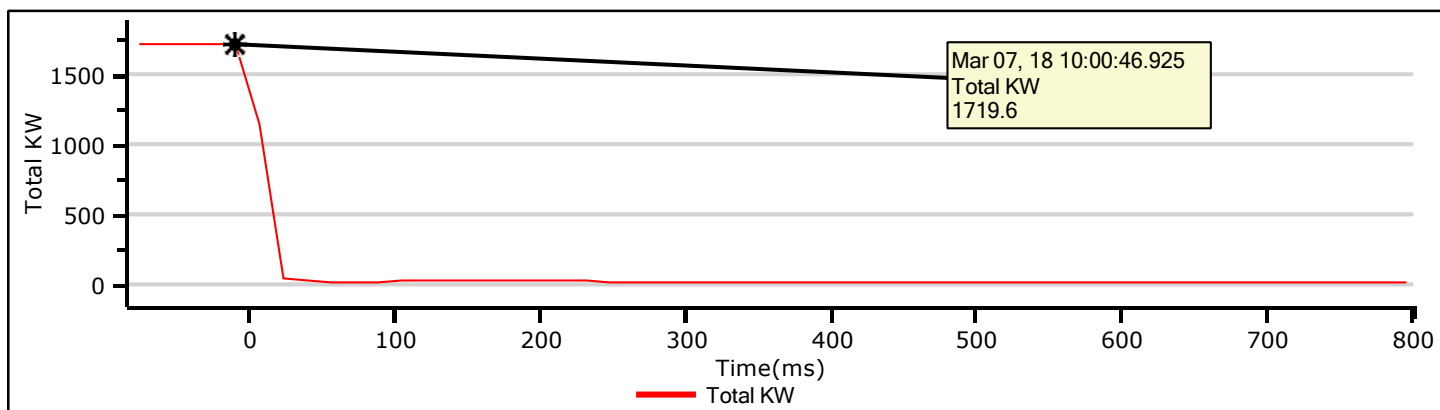
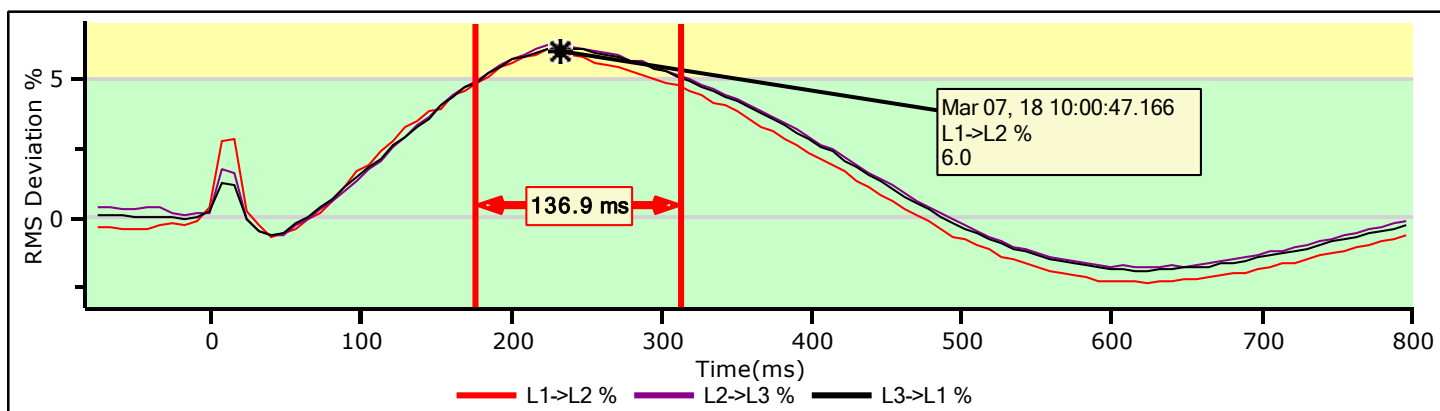
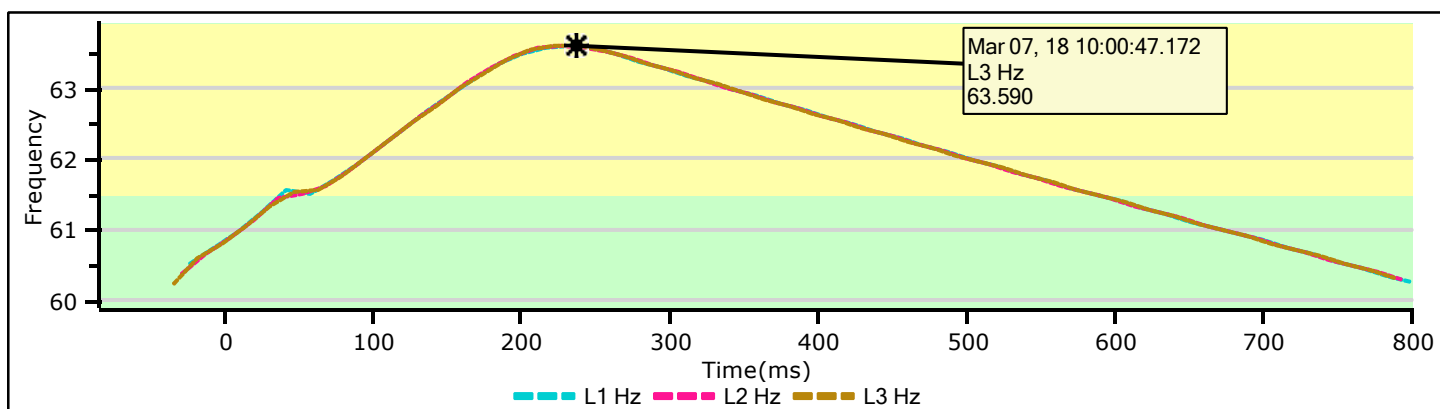
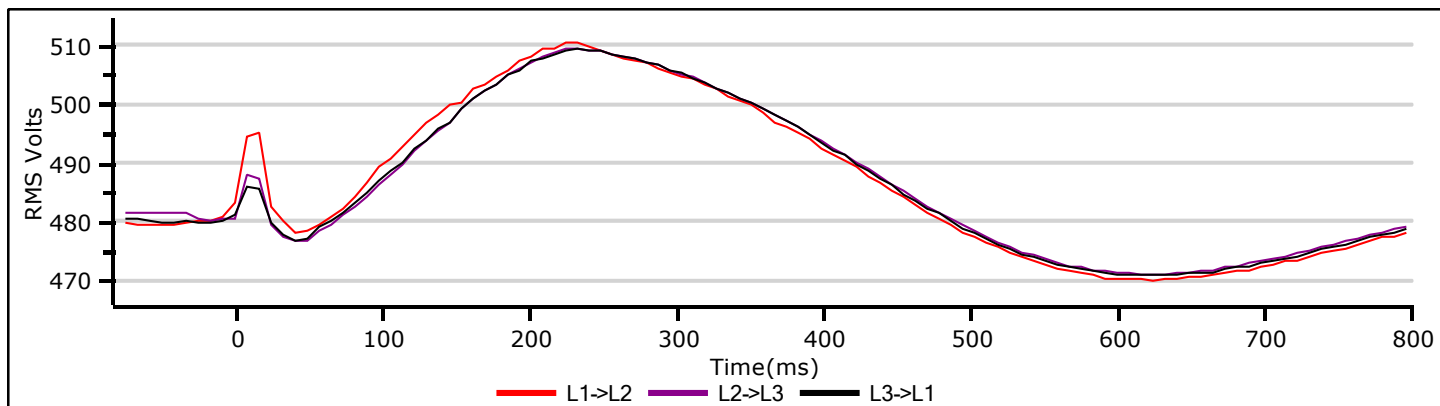




Transient Response

7/16/2018

Demo
Event 2072 - Wednesday, Mar 07, 2018 10:00:46
75 - 0%

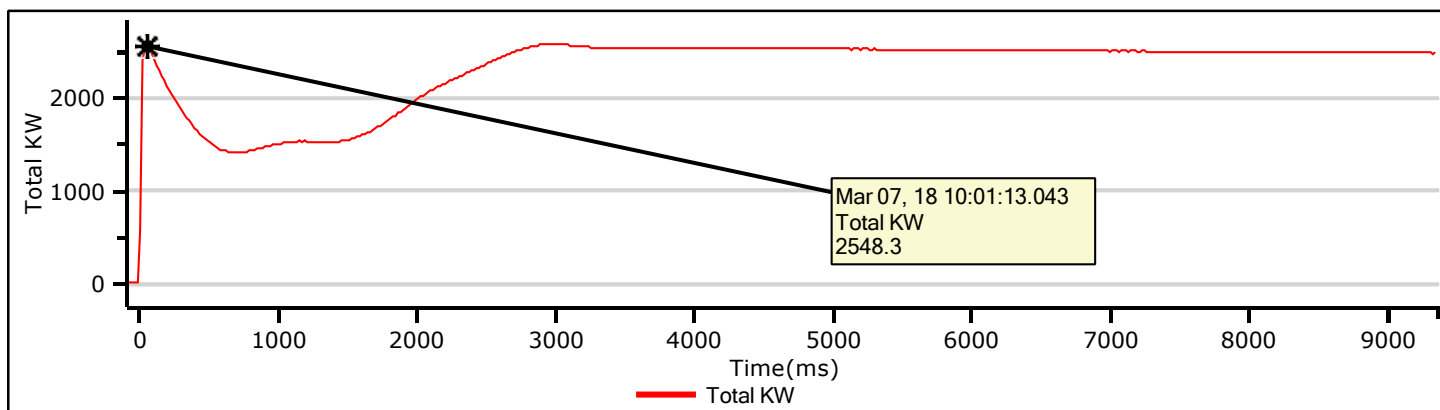
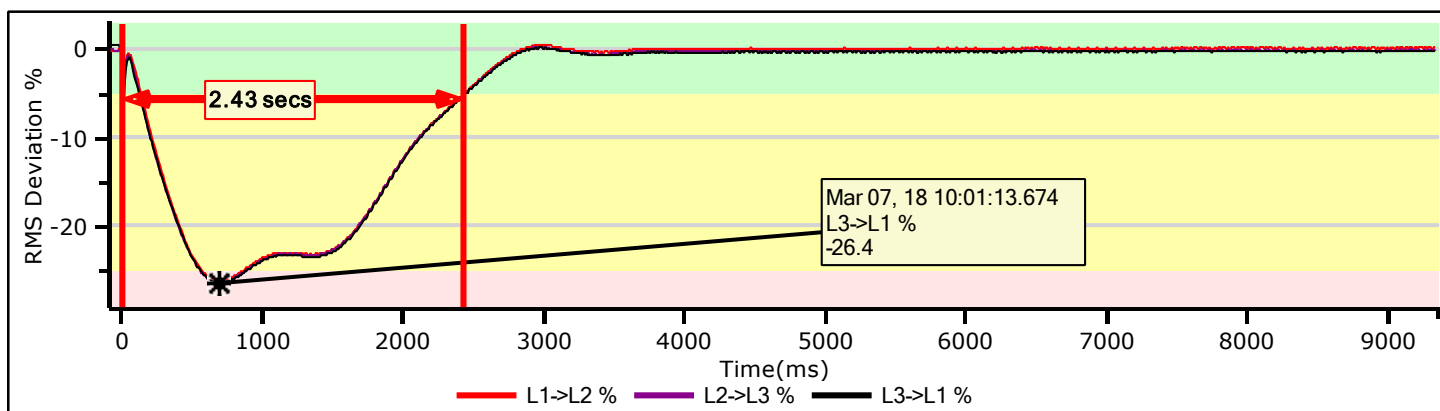
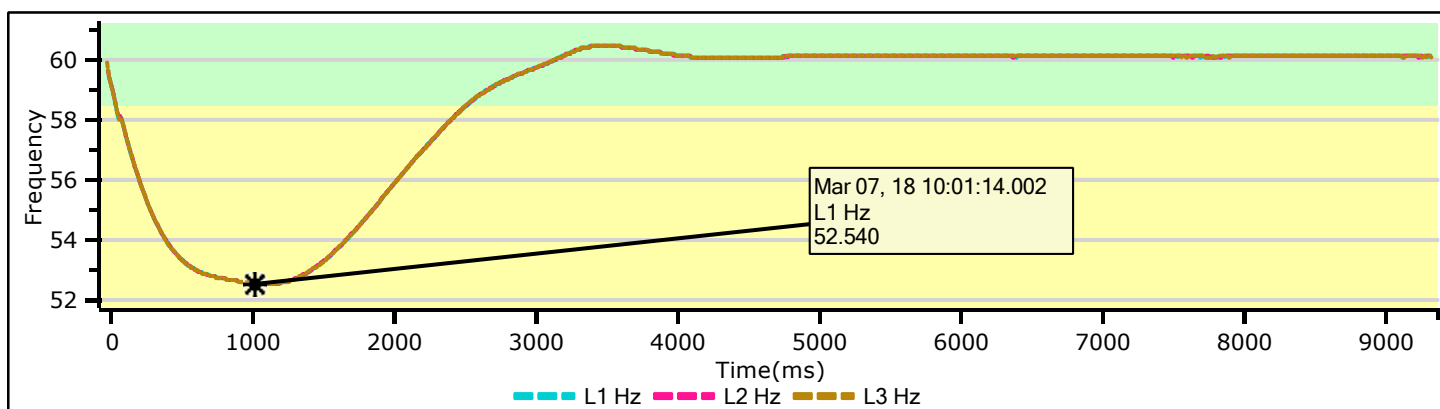
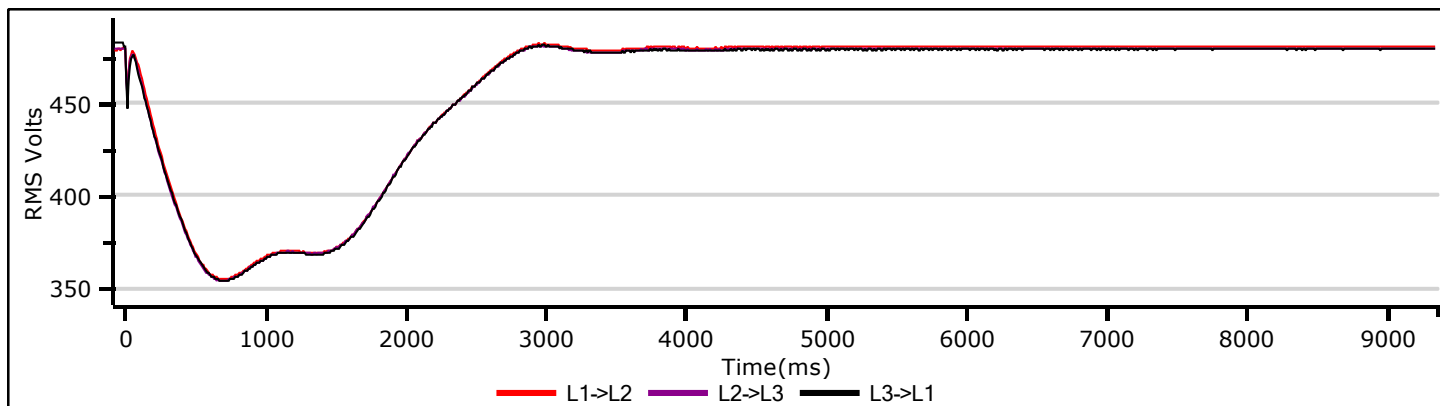




Transient Response

7/16/2018

Demo
Event 2143 - Wednesday, Mar 07, 2018 10:01:12
0 - 100%

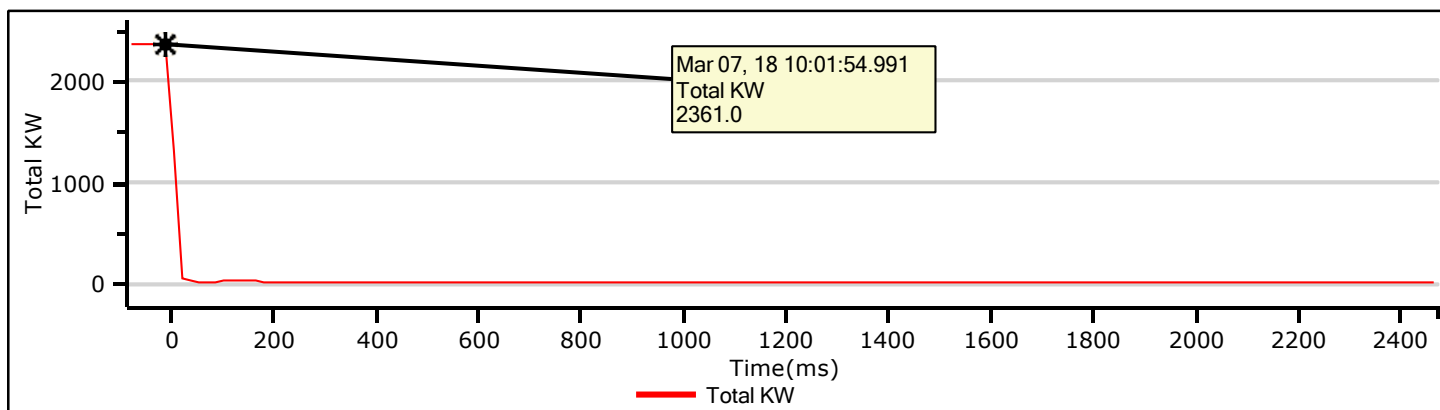
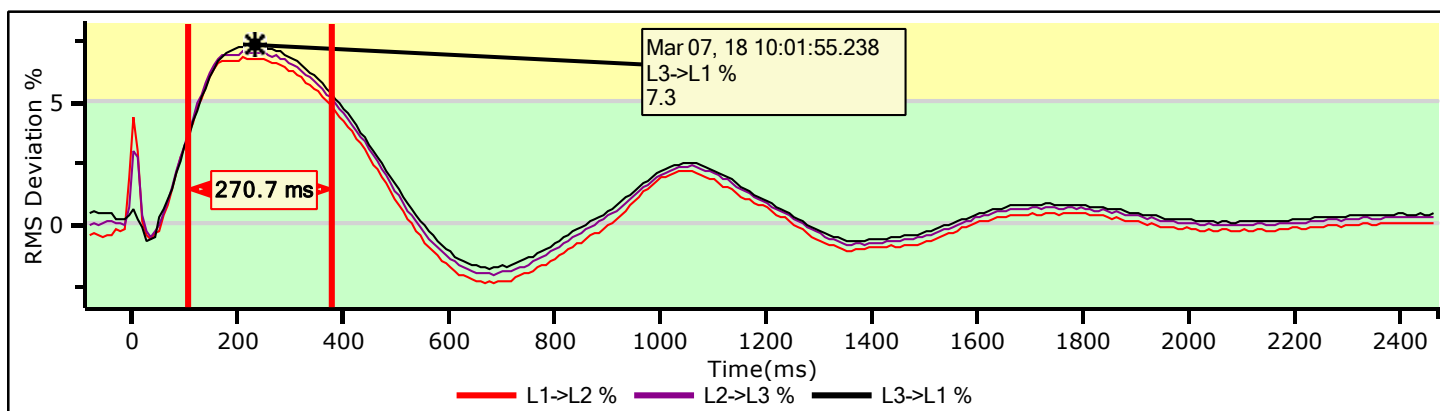
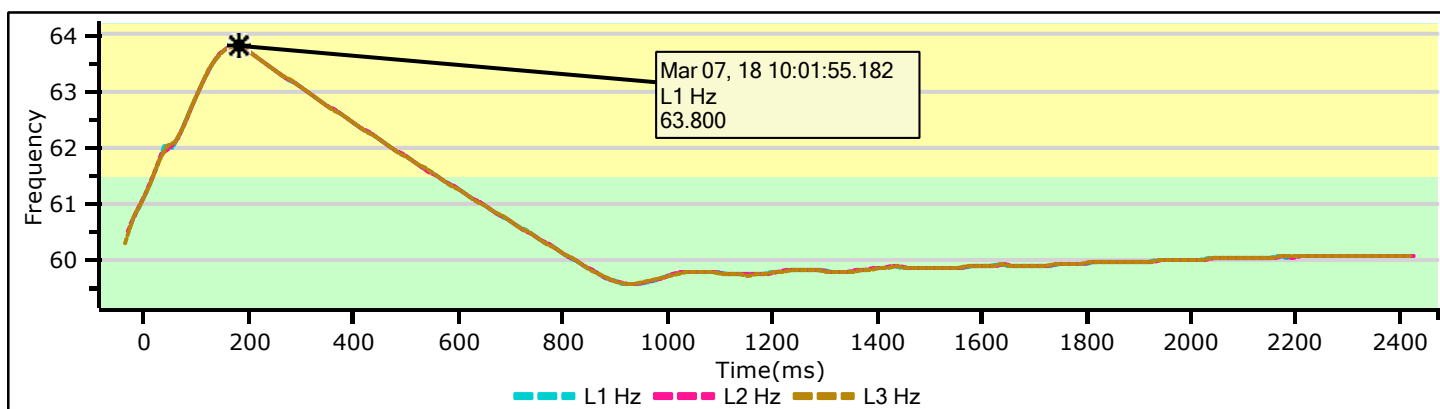
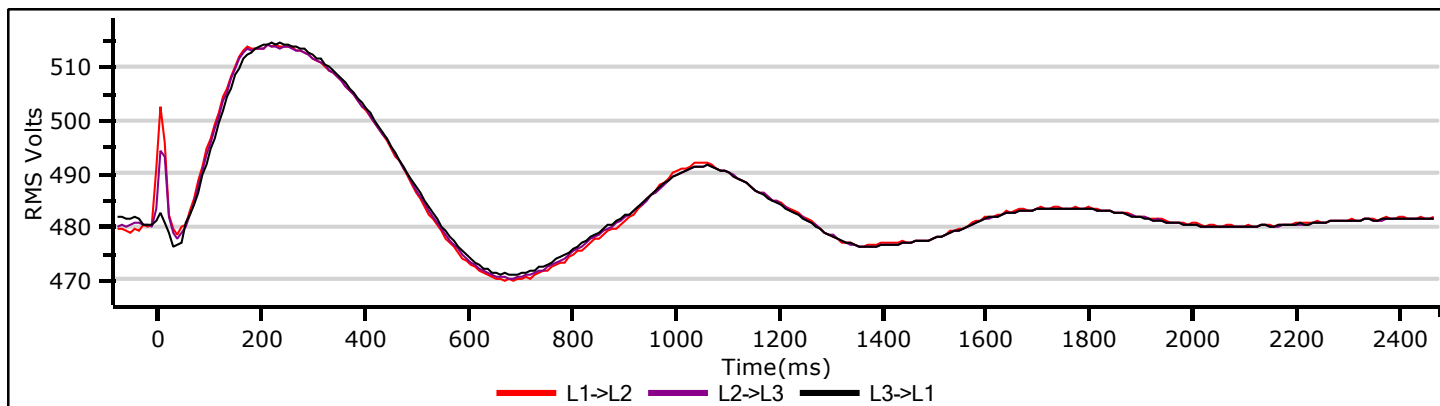




Transient Response

7/16/2018

Demo
Event 2284 - Wednesday, Mar 07, 2018 10:01:55
100 - 0%

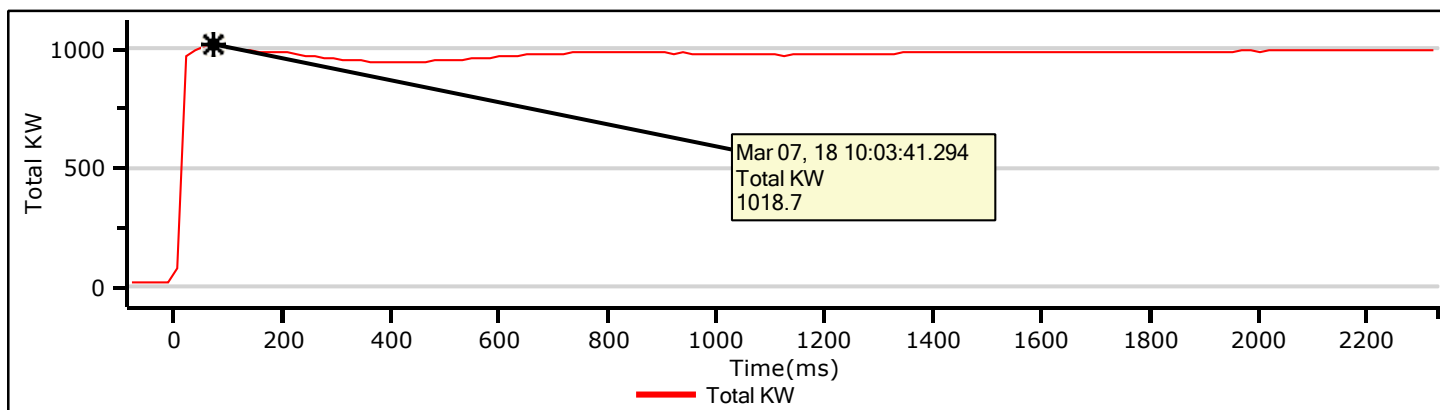
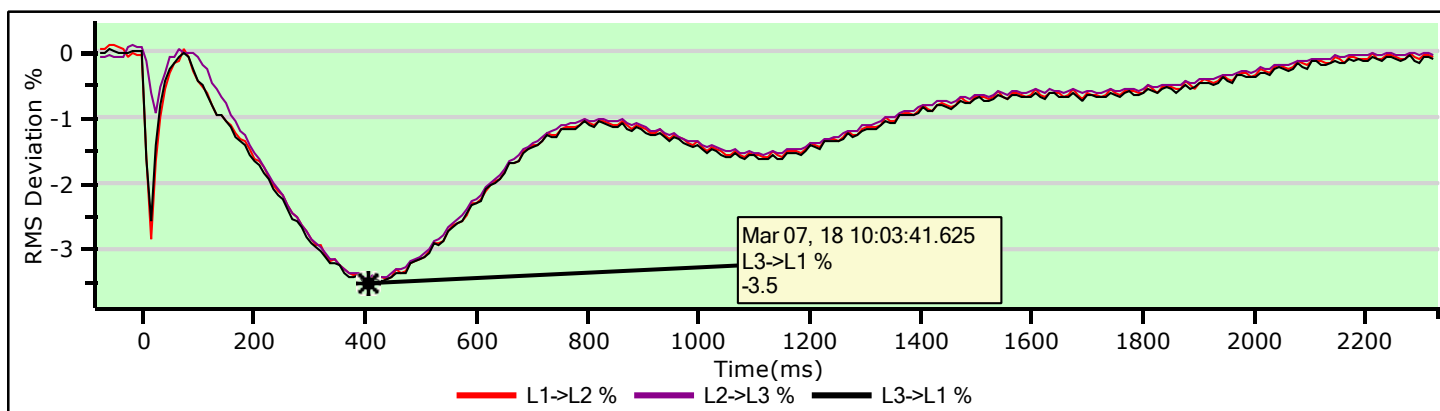
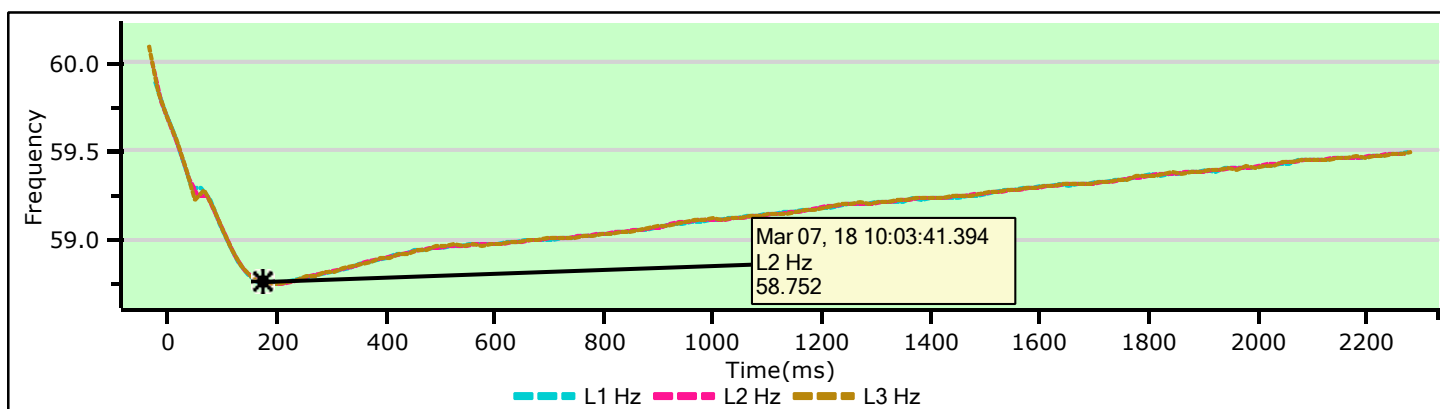
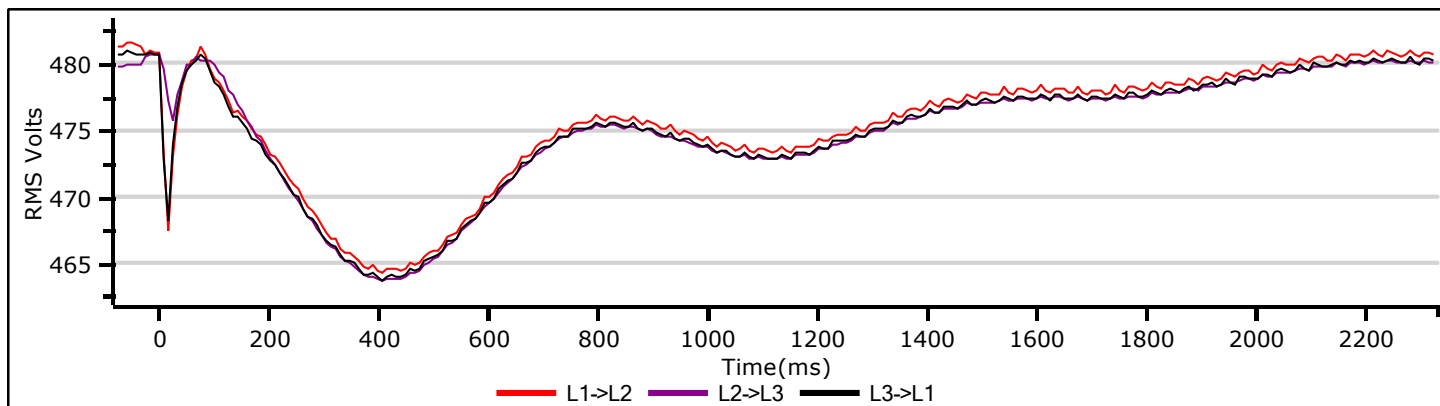




Transient Response

7/16/2018

Demo
Event 2360 - Wednesday, Mar 07, 2018 10:03:41
0 - 40%

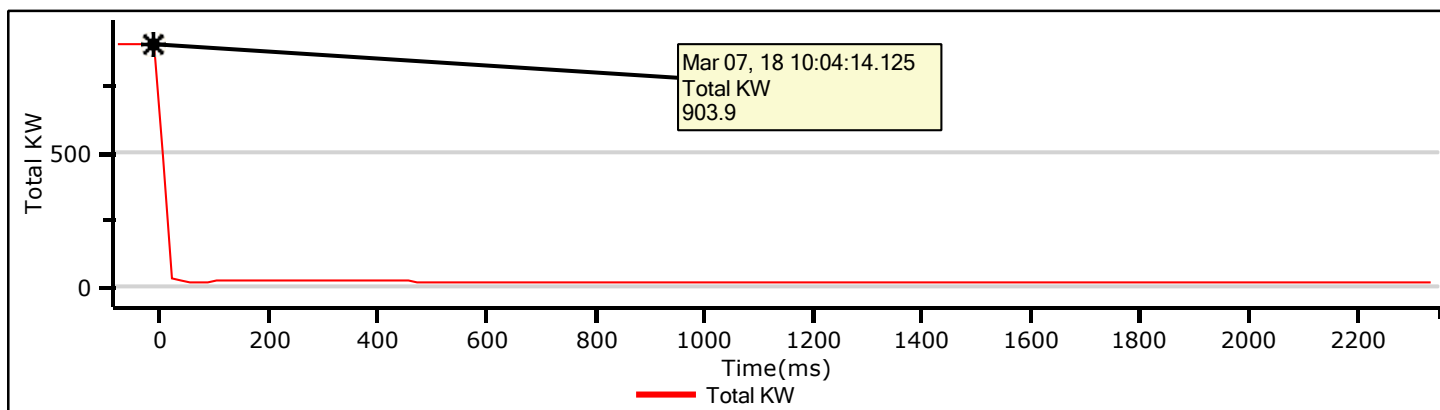
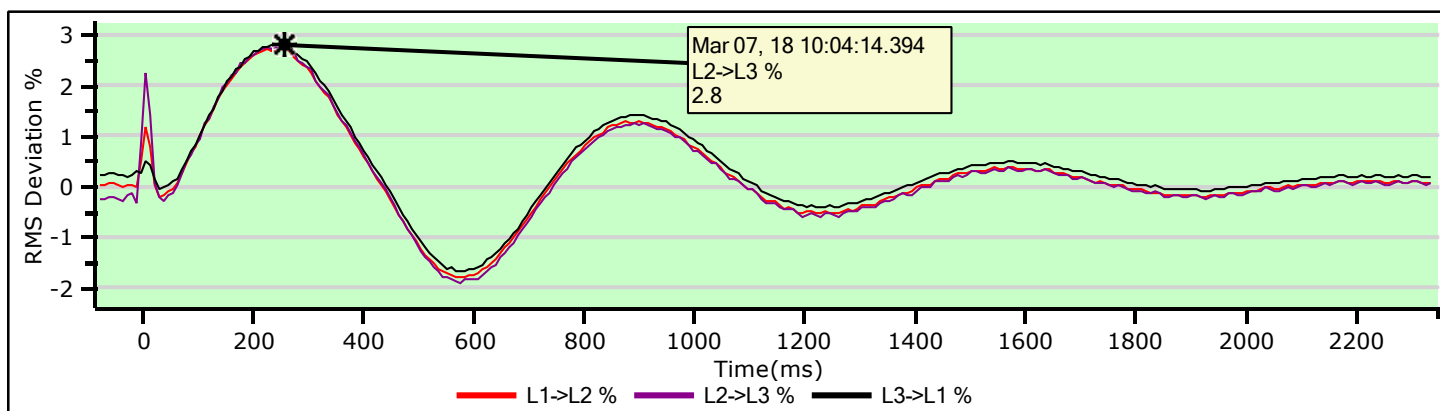
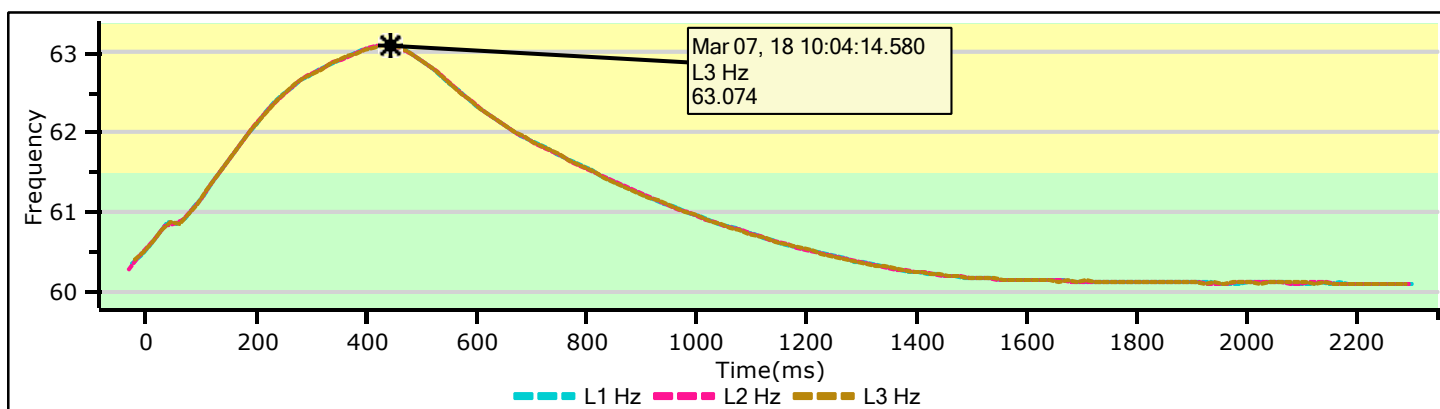
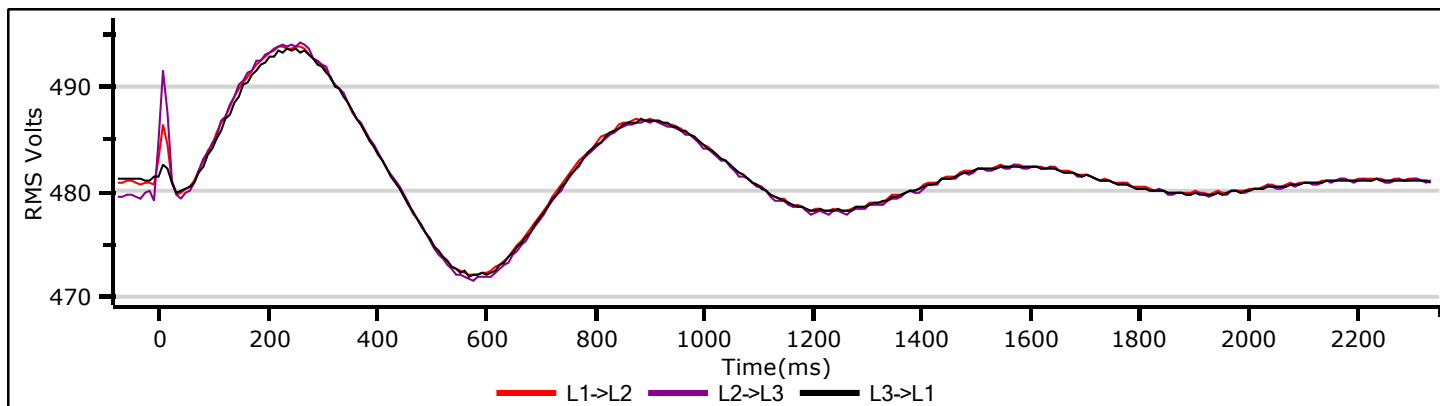




Transient Response

7/16/2018

Demo
Event 2372 - Wednesday, Mar 07, 2018 10:04:14
40 - 0%

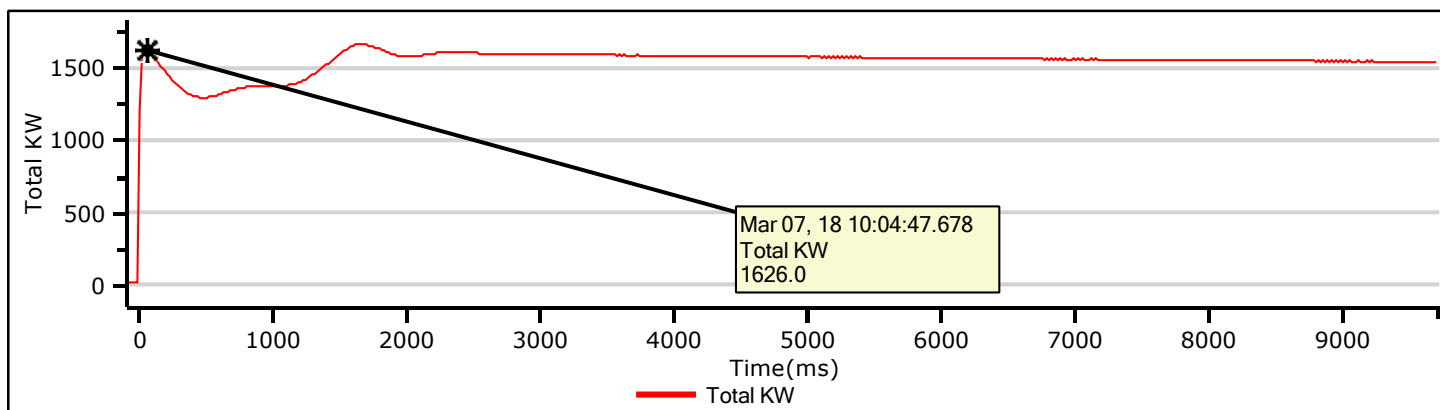
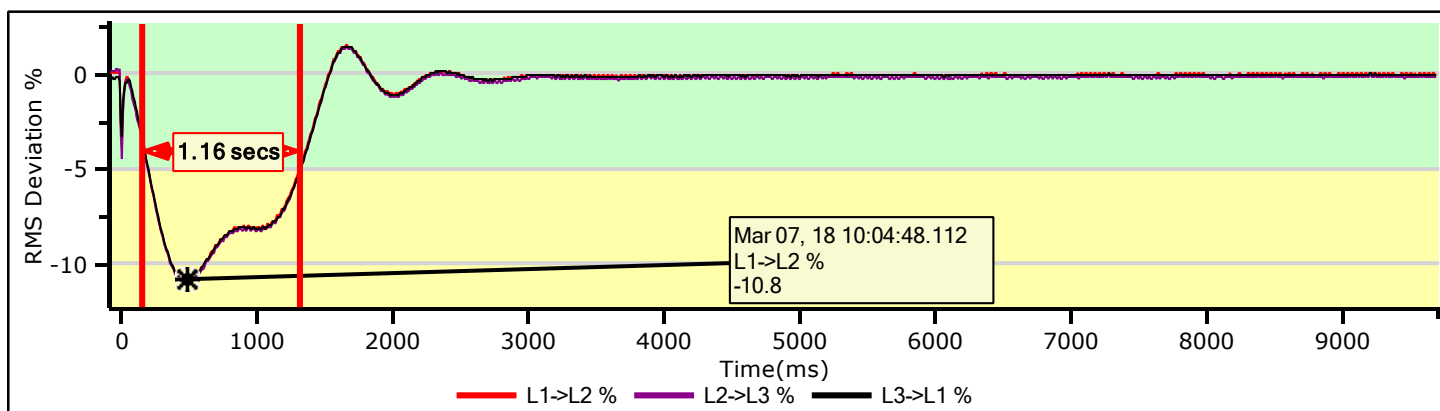
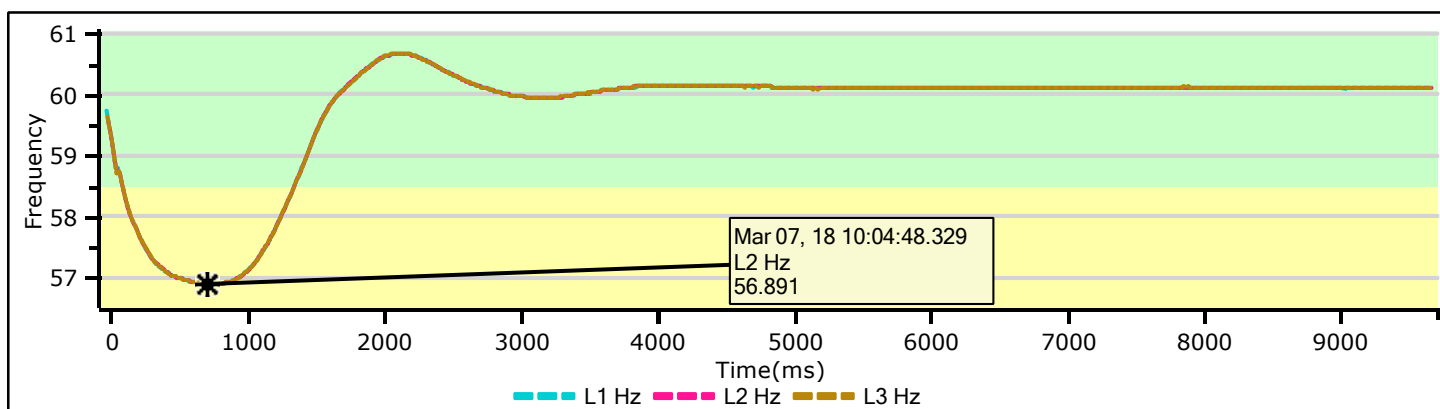
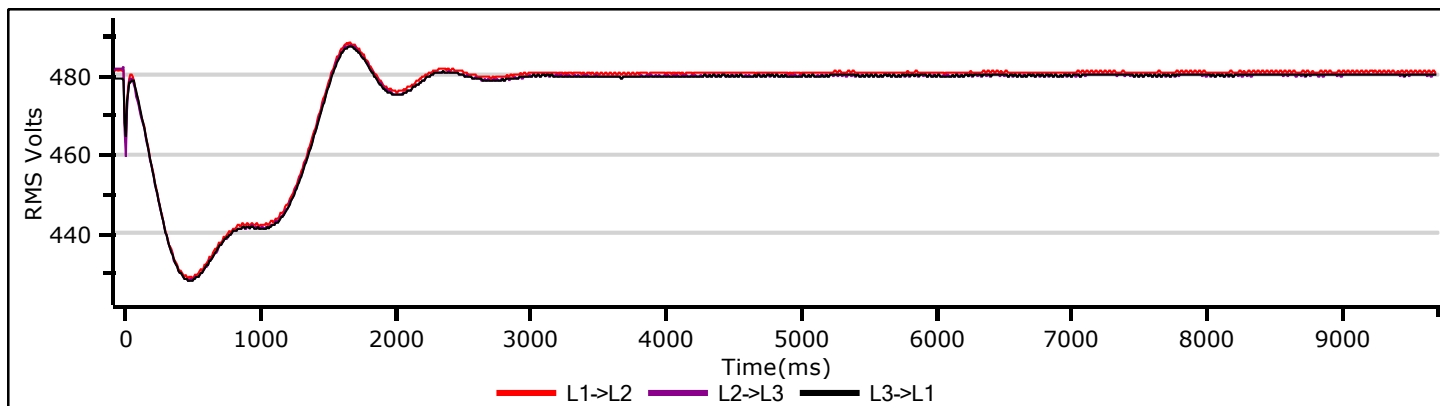




Transient Response

7/16/2018

Demo
Event 2442 - Wednesday, Mar 07, 2018 10:04:47
0 - 65%

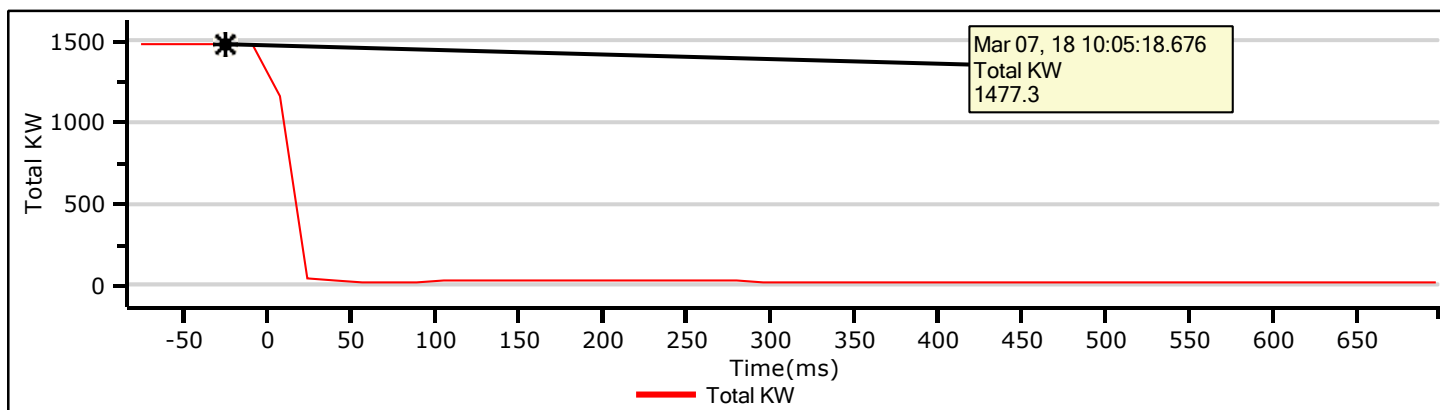
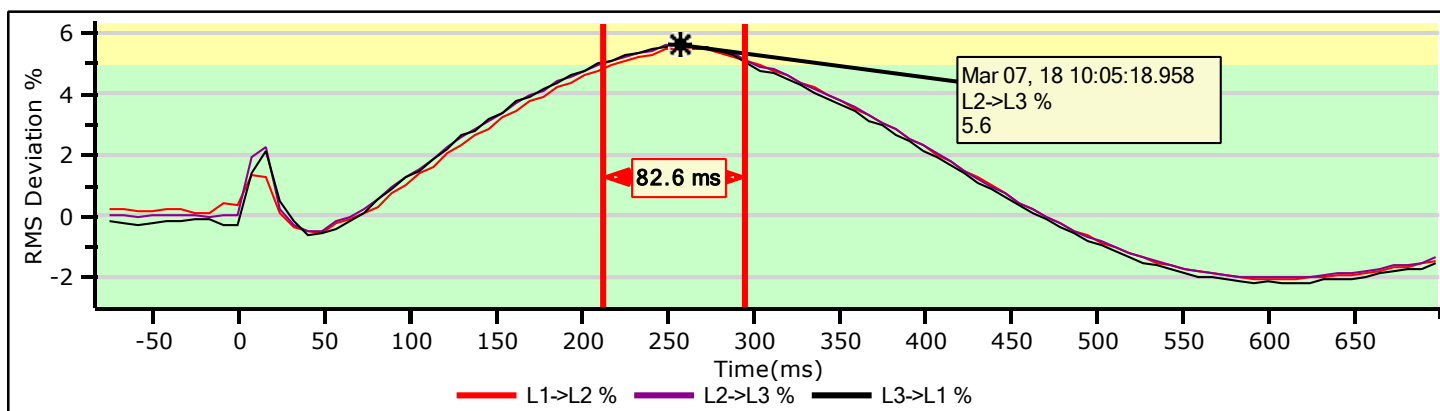
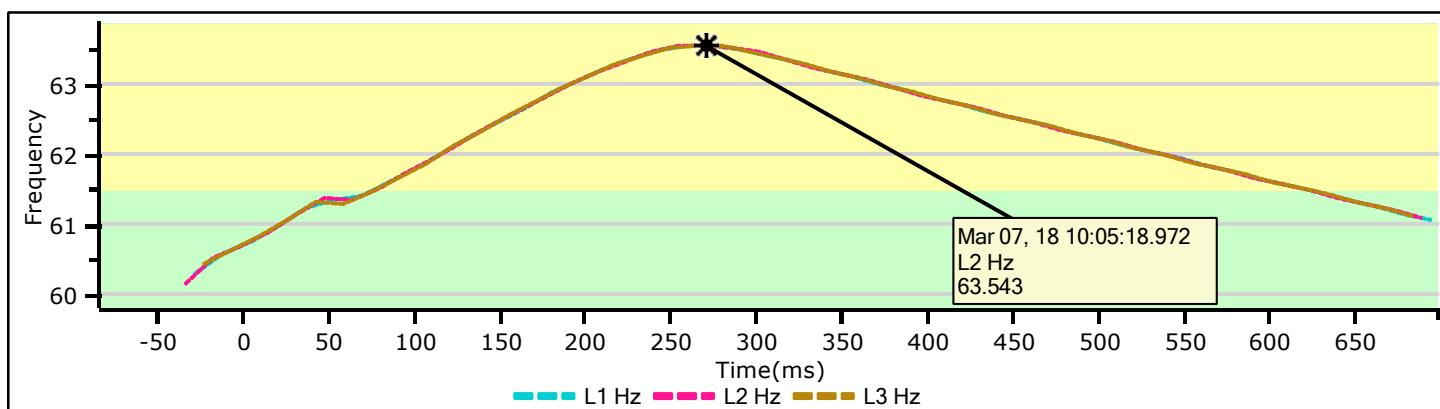
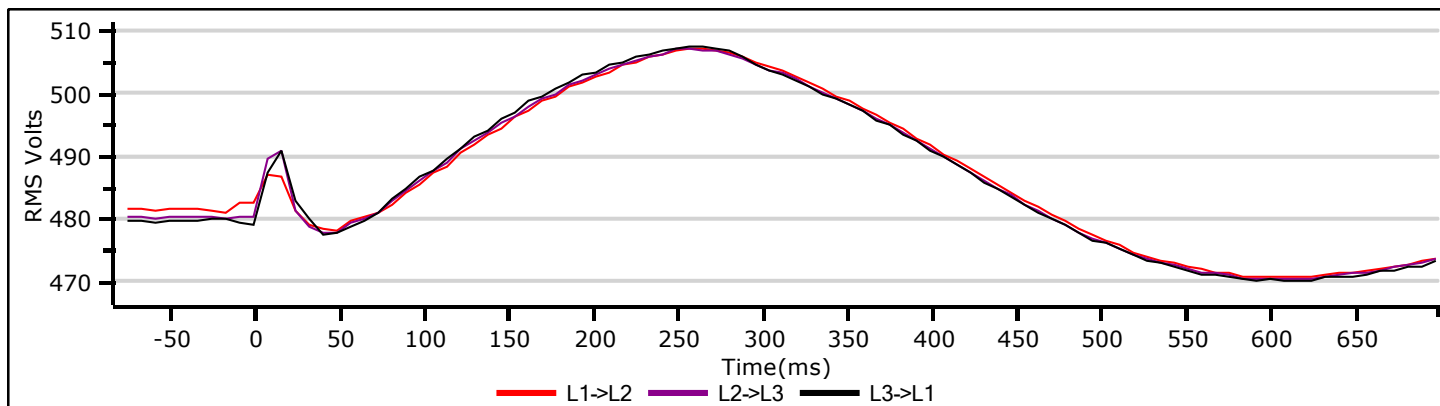




Transient Response

7/16/2018

Demo
Event 2531 - Wednesday, Mar 07, 2018 10:05:18
60 - 0%

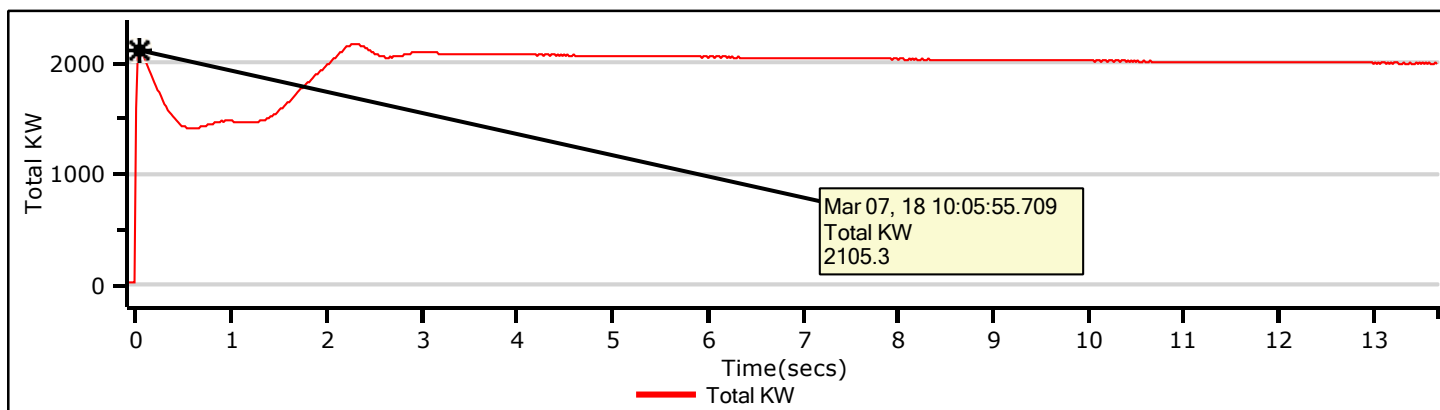
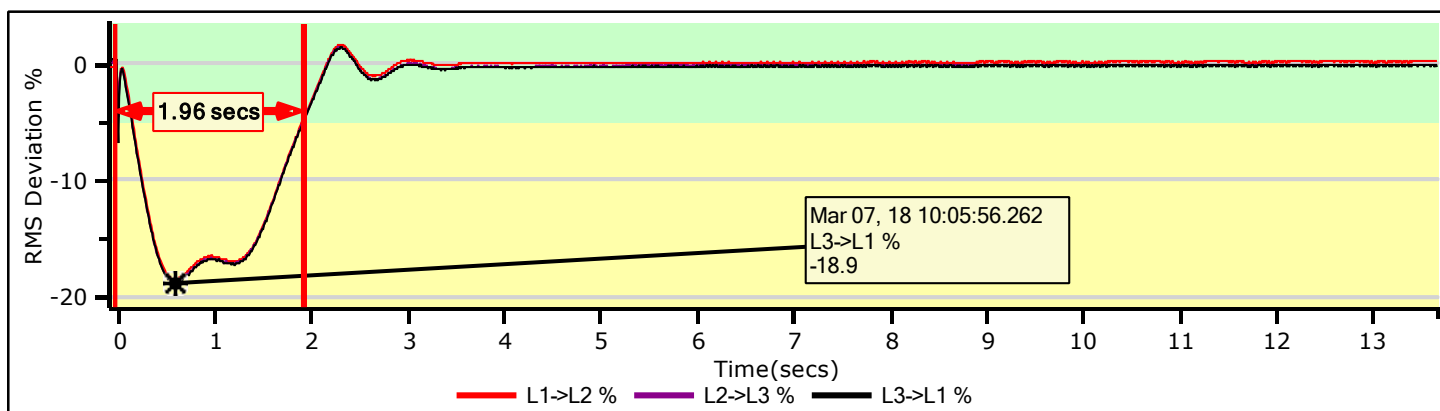
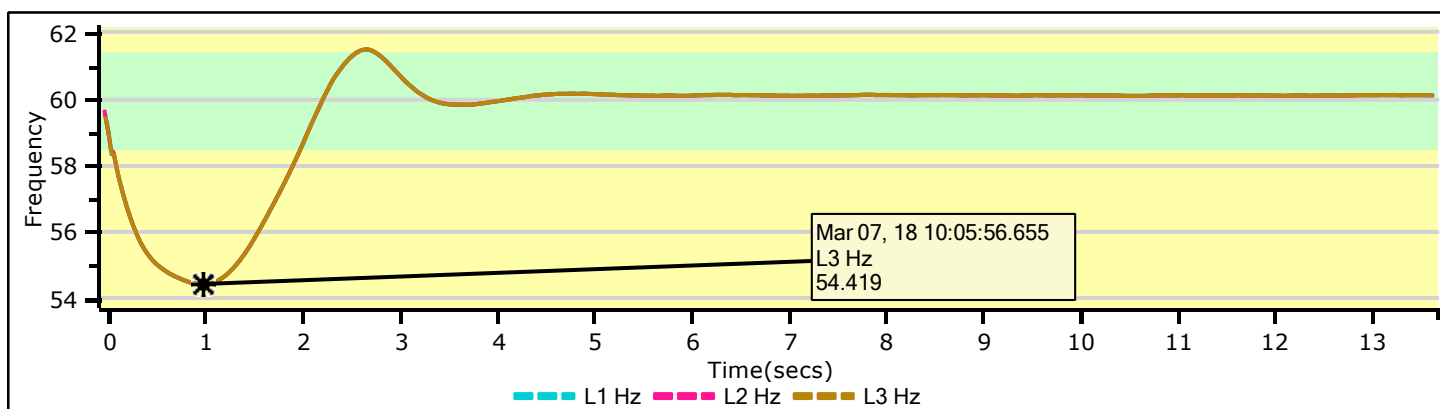
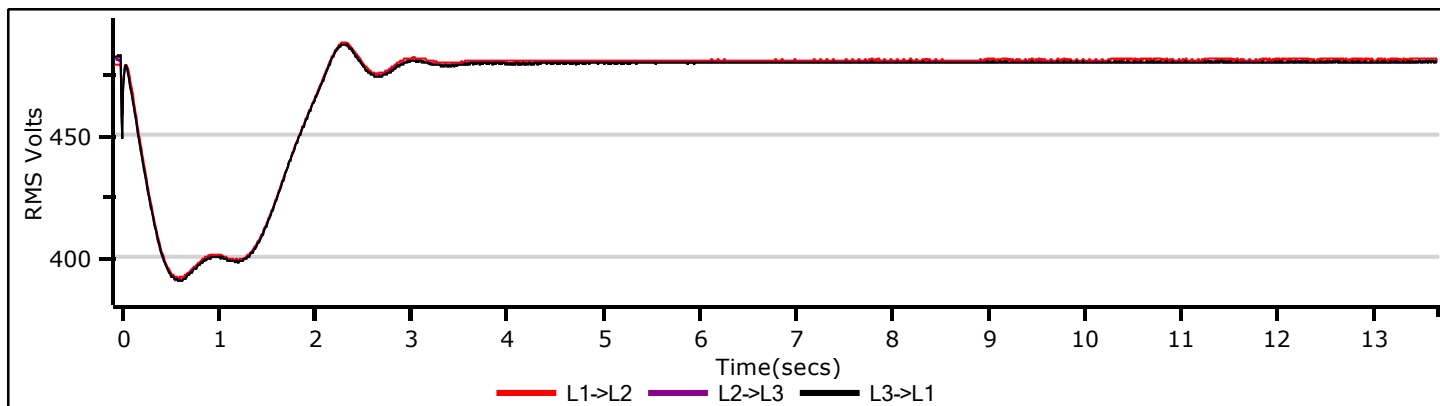




Transient Response

7/16/2018

Demo
Event 2609 - Wednesday, Mar 07, 2018 10:05:55
0 - 85%





Transient Response

7/16/2018

Demo
Event 2730 - Wednesday, Mar 07, 2018 10:06:37
80 - 0%

