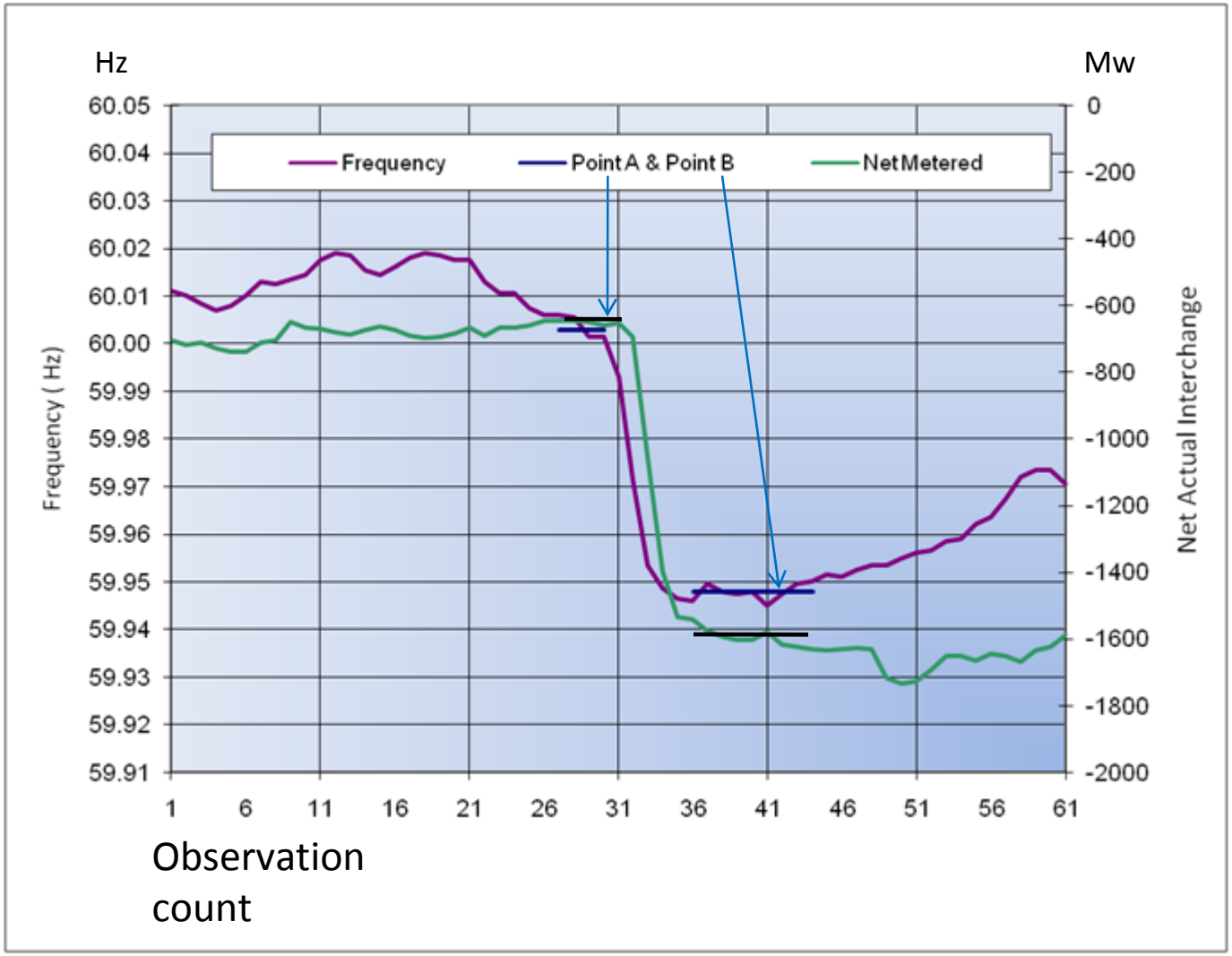
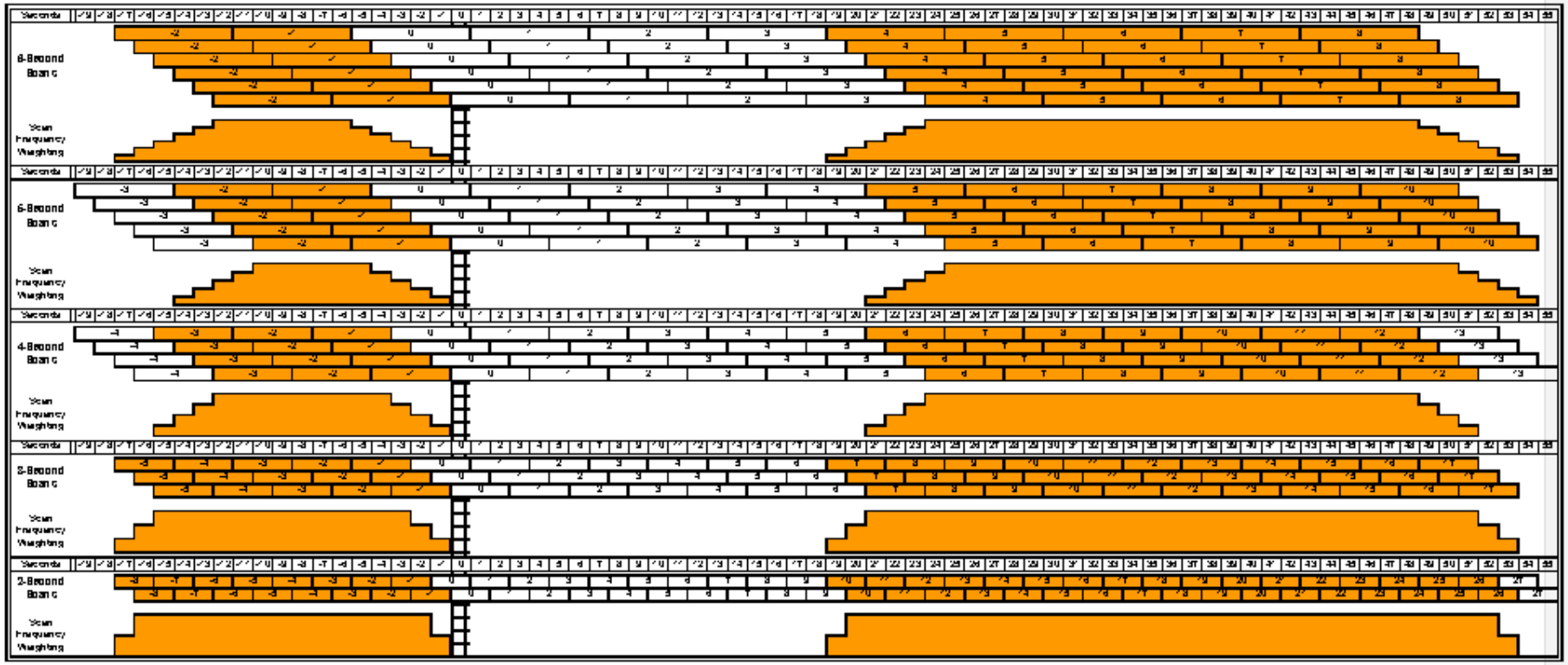
Balancing Authority – Energy Management System Scan rate data for determining frequency response



Scan Rate Factors in determining Frequency response – (not finalized)

Definitions of Frequency Values for Frequency Response Calculation

Scan Rate	T 0 Scan	A Value (average)	B Value (average)
6-Seconds	Identify first significant change in frequency as the T 0 scan	Average of T-1 through T-2 scans	Average of T+4 through T+8 scans
5-Seconds		Average of T-1 through T-2 scans	Average of T+5 through T+10 scans
4-Seconds		Average of T-1 through T-3 scans	Average of T+6 through T+12 scans
3-Seconds		Average of T-1 through T-5 scans	Average of T+7 through T+17 scans
2-Seconds		Average of T-1 through T-8 scans	Average of T+10 through T+26 scans



Scan Rate Data highlighting scan cycle samples – (example data)

Net – Balancing Area values

NI_s NI_A

	Time	F	Sched	Actual	ACE	Index
T-24 sec	1:52:19	60.002	-58.3	-34.7	154.3	25
T-20 sec	1:52:23	60.001	-59.1	-34.7	146.4	26
T-16 sec	1:52:27	60.001	-60.3	-19.7	153.8	27
T-12 sec	1:52:31	59.999	-60.5	-28.3	137.5	28
T-08 sec	1:52:35	59.999	-61.4	-42.7	114.3	29
T-04 sec	1:52:39	59.999	-61.4	-62.4	84.0	30
T+0 sec	1:52:43	59.967	-61.7	22.4	144.0	31
T+04 sec	1:52:47	59.961	-60.2	54.0	157.0	32
T+08 sec	1:52:51	59.957	-60.3	240.5	305.3	33
T+12 sec	1:52:55	59.956	-61.4	270.4	301.9	34
T+16 sec	1:52:59	59.954	-61.5	283.9	285.7	35
T+20 sec	1:53:03	59.955	-60.1	255.9	215.9	36
T+24 sec	1:53:07	59.958	-59.7	237.0	160.7	37
T+28 sec	1:53:11	59.957	-60.2	228.5	121.1	38
T+32 sec	1:53:15	59.957	-60.6	200.3	70.4	39
T+36 sec	1:53:19	59.957	-59.8	219.2	45.1	40
T+40 sec	1:53:23	59.955	-61.1	203.1	16.3	41
T+44 sec	1:53:27	59.955	-59.3	213.1	-15.6	42
T+48 sec	1:53:31	59.957	-59.0	195.8	-52.3	43
T+52 sec	1:53:35	59.957	-59.2	223.7	-47.9	44
T+56 sec	1:53:39	59.956	-59.2	239.1	-52.4	45
T+60 sec	1:53:43	59.956	-61.2	212.9	-93.7	46