

DGI Test Case Results

By: Tom Roth
Date: 10/30/2012
Commit: 4c444e05d0
Simulation: <https://github.com/downloads/scj7t4/FREEDM/simulation-10-30-2012.zip>
Test Logs: <https://github.com/downloads/scj7t4/FREEDM/test-output-10-30-2012.zip>

Simulation Server

Machine r-facts3.device.mst.edu

DGI #1

Machine r-facts4.device.mst.edu
Devices SST1; FID1; FID2

DGI #2

Machine r-facts5.device.mst.edu
Devices SST2; FID3; FID4

DGI #3

Machine r-facts6.device.mst.edu
Devices SST3; FID5; FID6

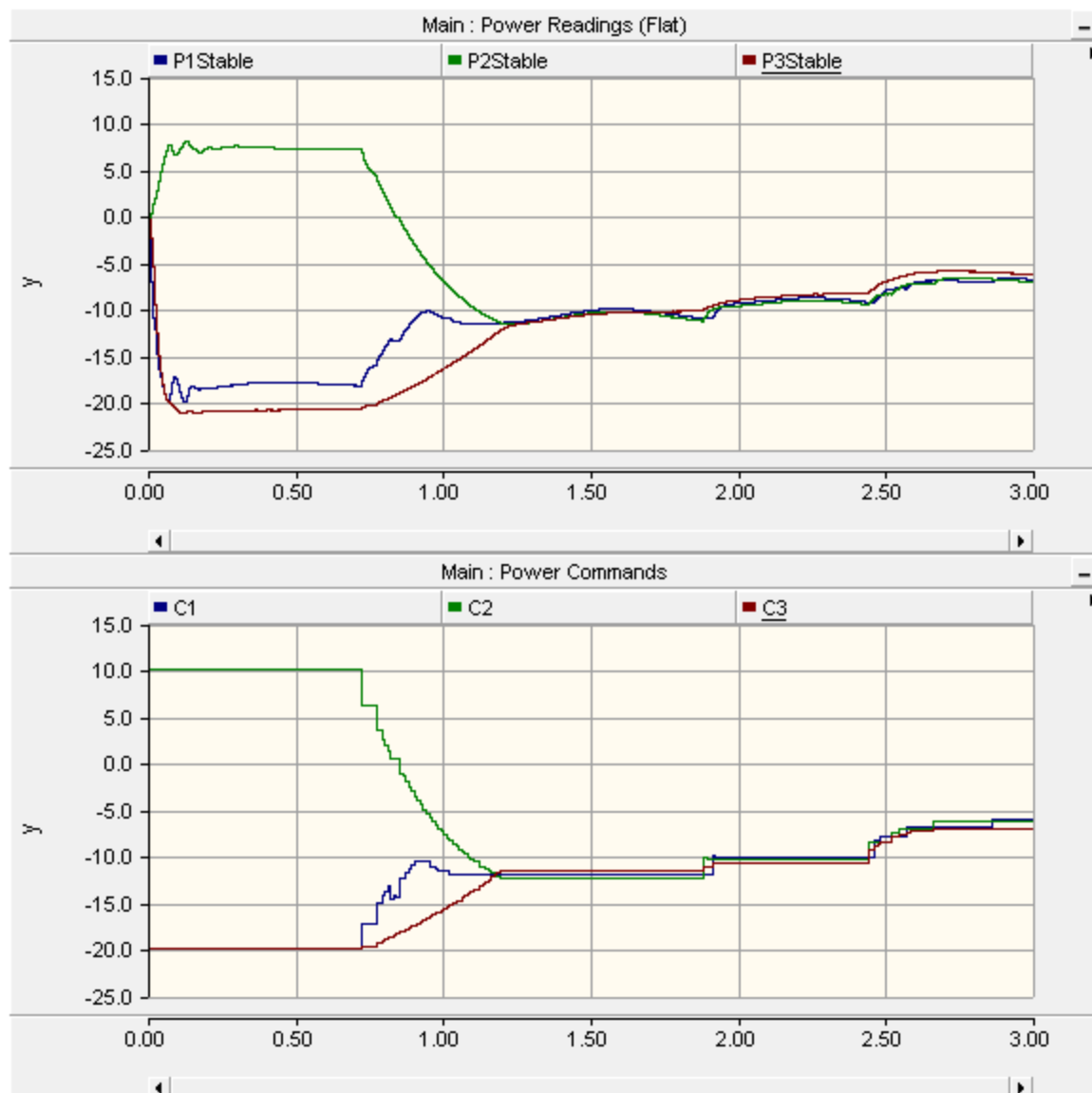
HIL Test Script (2012) Results

Test 1 PASS
Test 2 SKIPPED¹
Test 3 PASS
Test 4 PASS

¹ Test 2 cannot be performed with the available PSCAD simulation.

Test 1 Normal operation of the DGI (PASSED)

Initial State P1 = -20; P2 = 10; P3 = -20



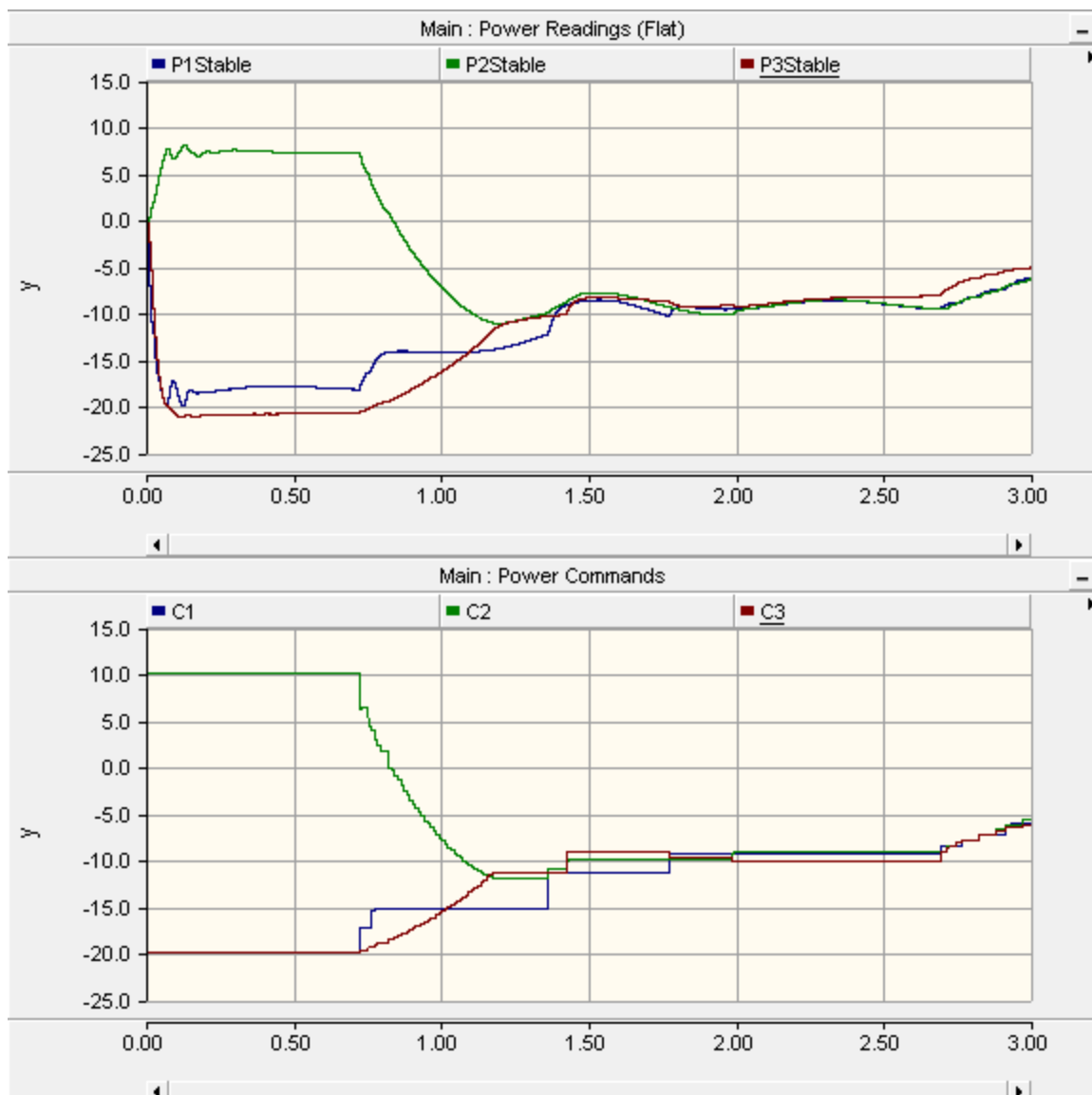
Test 3-1 DGI #1 process killed and restarted (PASSED)

Initial State P1 = -20; P2 = 10; P3 = -20

@t = 0.80 DGI #1 process killed

@t = 1.25 DGI #1 process restarted

@t = 1.35 group management reforms group



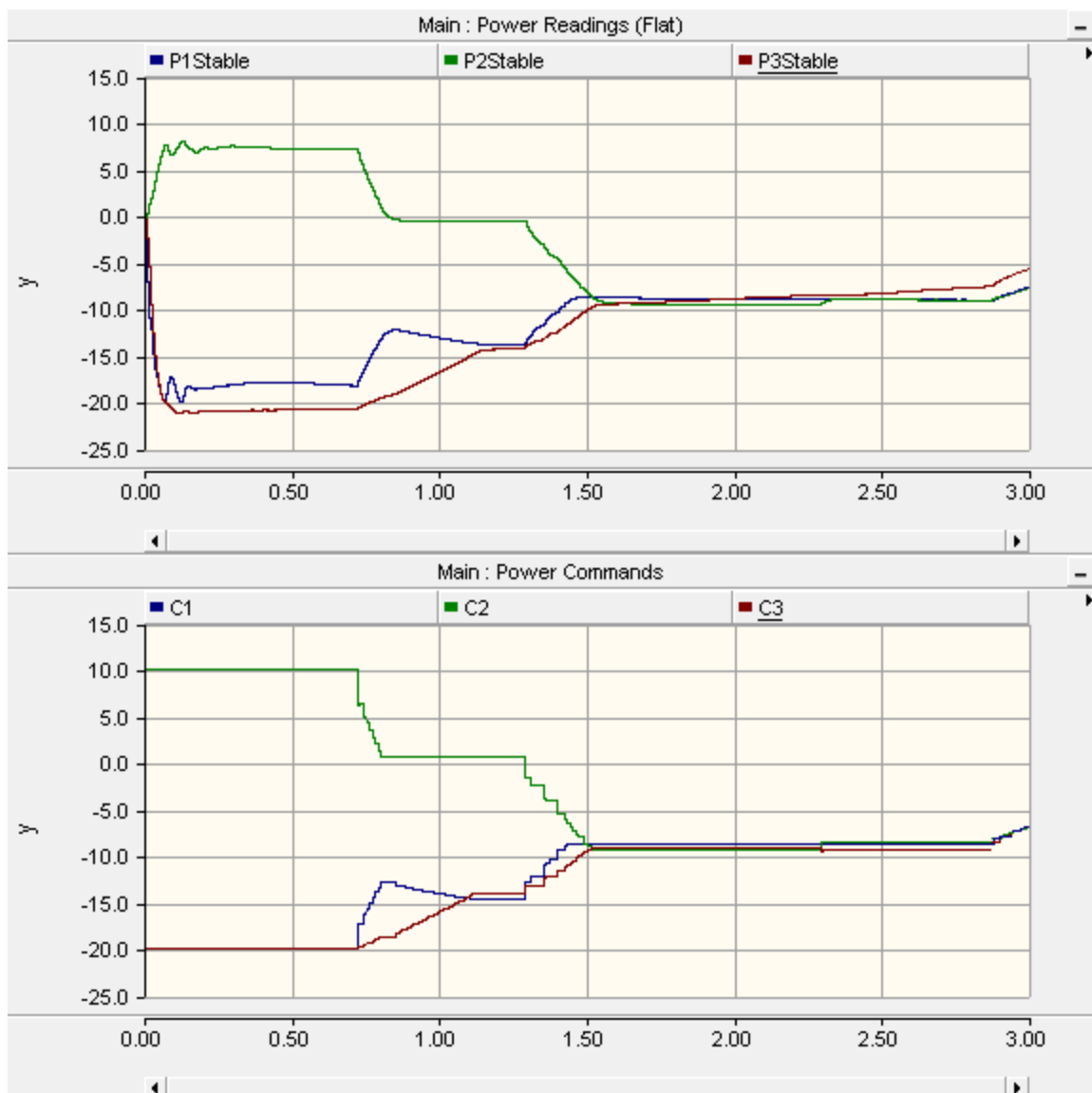
Test 3-2 DGI #2 process killed and restarted (PASSED)

Initial State P1 = -20; P2 = 10; P3 = -20

@t = 0.80 DGI #2 process killed

@t = 1.20 DGI #2 process restarted

@t = 1.28 group management reforms group



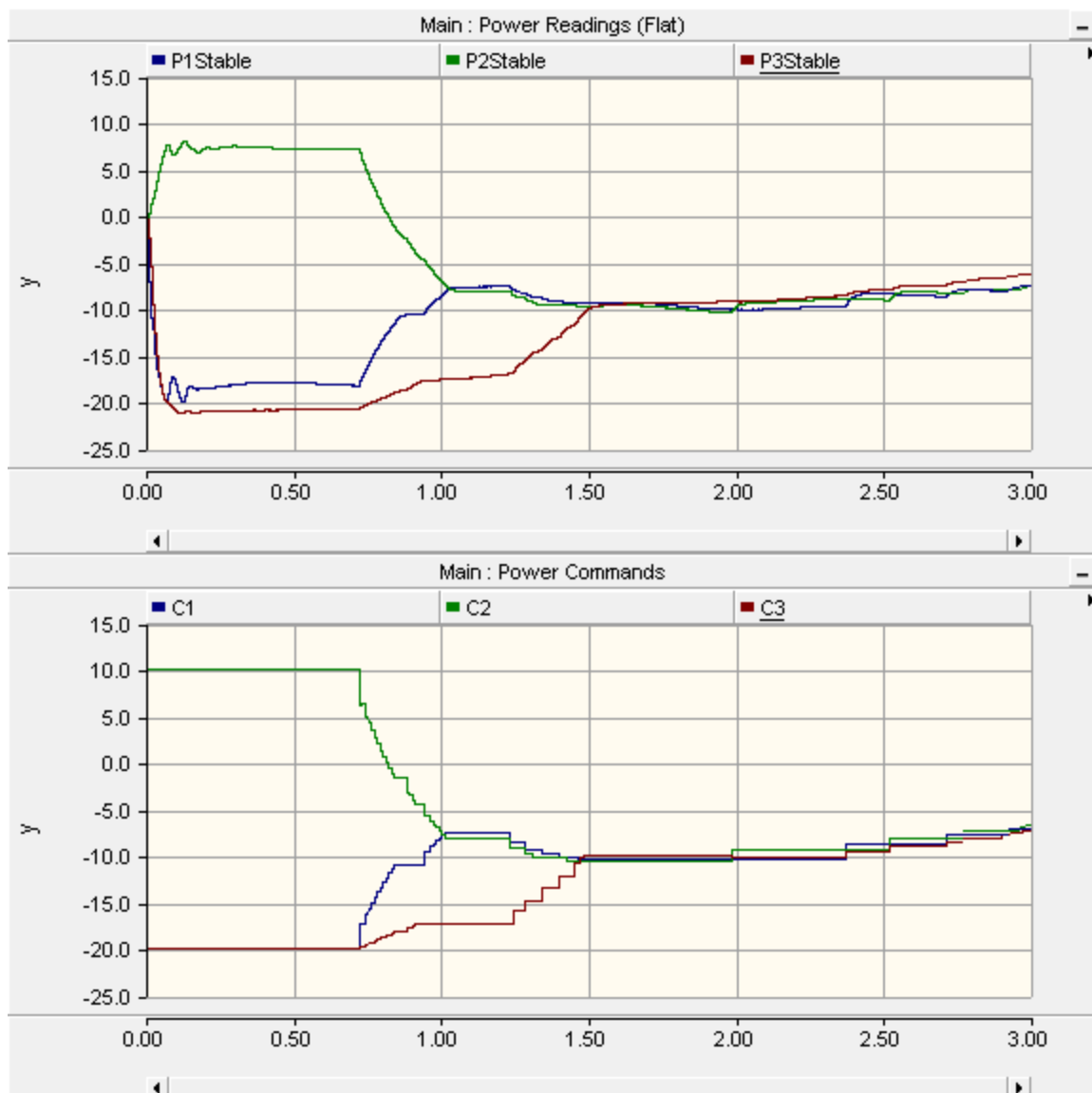
Test 3-3 DGI #3 process killed and restarted (PASSED)

Initial State P1 = -20; P2 = 10; P3 = -20

@t = 0.90 DGI #3 process killed

@t = 1.15 DGI #3 process restarted

@t = 1.22 group management reforms group



Test 4-1 FID1 and FID2 open to isolate DGI #1 (PASSED)

Initial State P1 = -20; P2 = 10; P3 = -20

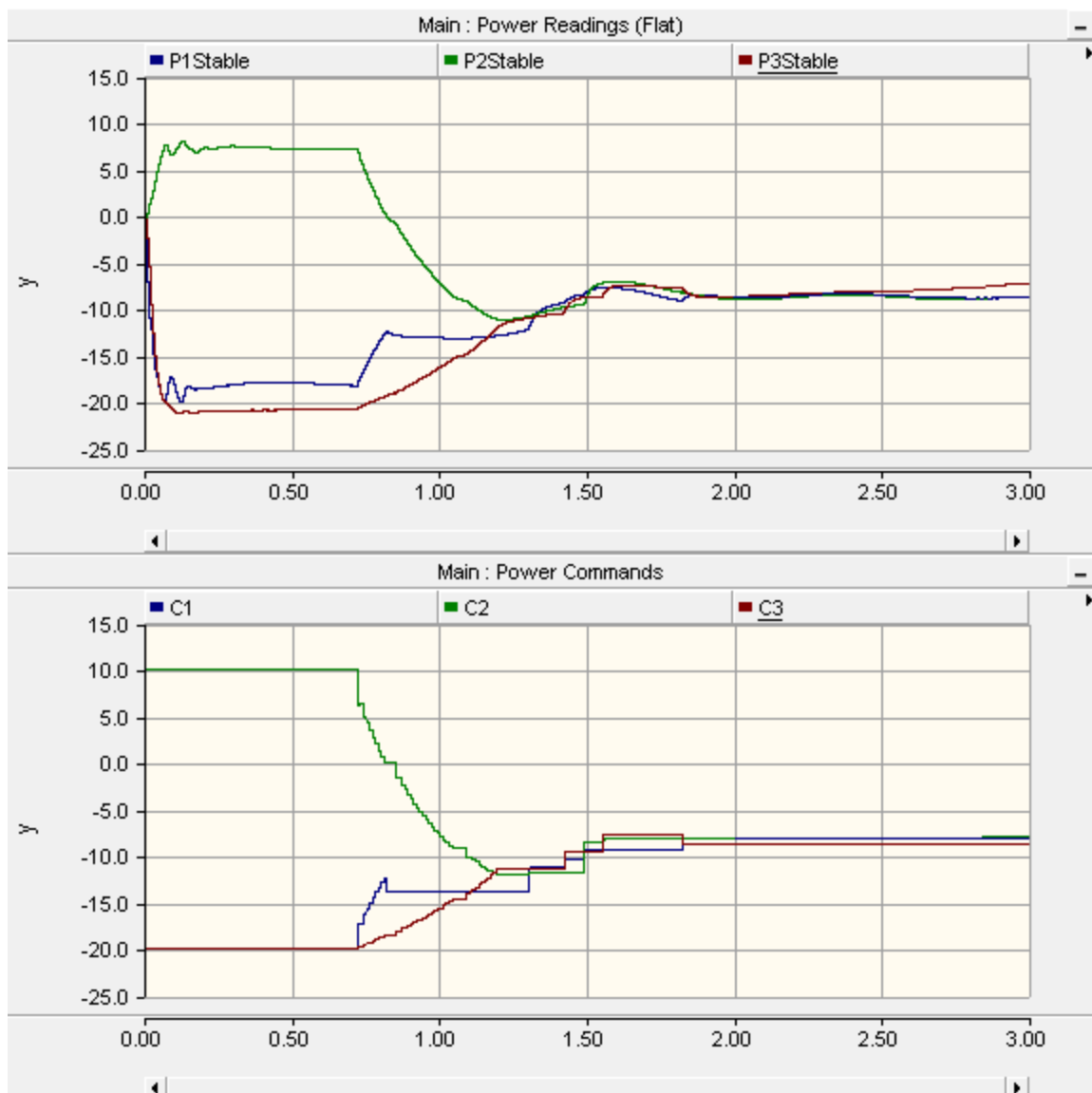
@t = 0.00 FID1 opened

@t = 0.80 FID2 opened

@t = 0.82 DGI #1 leaves group

@t = 1.25 FID1 closed

@t = 1.28 DGI #1 rejoins group



Test 4-2 FID3 and FID4 open to isolate DGI #2 (PASSED)

Initial State P1 = -20; P2 = 10; P3 = -20

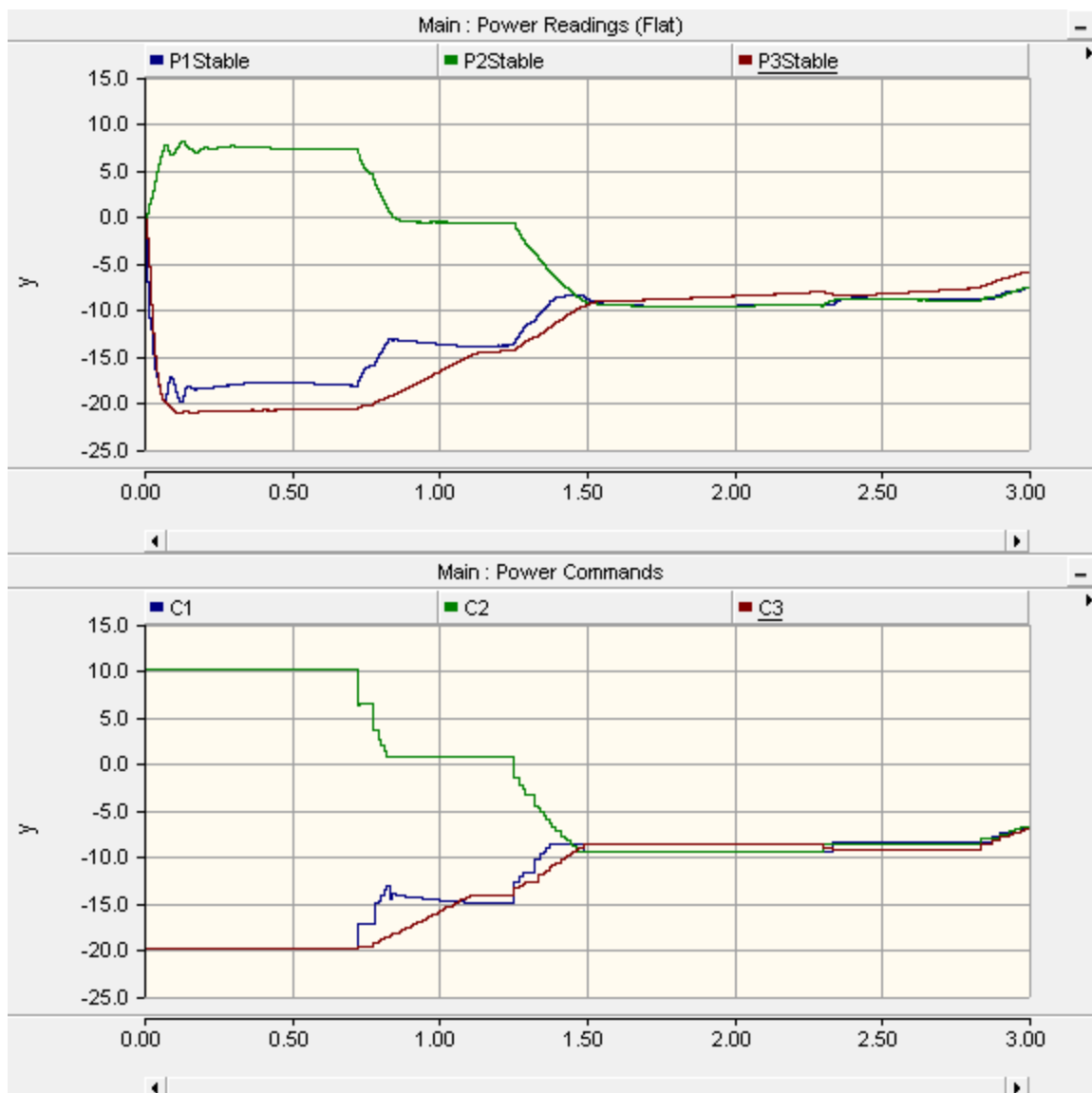
@t = 0.00 FID3 opened

@t = 0.80 FID4 opened

@t = 0.83 DGI #2 leaves group

@t = 1.20 FID3 closed

@t = 1.24 DGI #2 rejoins group



Test 4-3 FID5 and FID6 open to isolate DGI #3 (PASSED)

Initial State P1 = -20; P2 = 10; P3 = -20

@t = 0.00 FID5 opened

@t = 0.90 FID6 opened

@t = 0.94 DGI #3 leaves group

@t = 1.20 FID5 closed

@t = 1.23 DGI #3 rejoins group

