Arnold Schwarzenegger
Governor

CERTS MICROGRID LABORATORY TEST BED

Youtility Factory Test Plan
Final Test Results

APPENDIX C

Prepared For:
California Energy Commission
Public Interest Energy Research Program

Prepared By:
Lawrence Berkeley National Laboratory

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CONSORTIUM FOR ELECTRIC RELIABILITY TECHNOLOGY SOLUTIONS

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Youtility Factory Test Plan Final Test Results

For Inverter Functions

Test Results:

The data provided in this paper are the final results to demonstrate the capabilities of the microgrid algorithm implemented in the Youtility inverter microgrid system. Also, the data provided in this paper only depicts two-unit series operation. In each plot the data is formatted in the following fashion:

Ch1 = Unit RMS Power Output;
0.0V = -15KW
0.5V = 0KW
1.5V = 30KW
2.5V = 60KW
Ch2 = Unit Operating Frequency;
60Hz --> 2.3V
59.5Hz --> 1.66V
60.5Hz --> 2.94V
Ch 3 = Micro Grid Voltage; 1V = 1V
Ch4 = Unit Output Current; 1V = 100Amps

Also, the result of each test are organized in a table, shown below in Table 1, which define the set points of the load and the individual micro gird inverters (abbreviated S.P) and the actual load of the load bank and the actual power output from the unit. The table also contains the microgrid operating frequency before and after the transient event occurs. Data contained in column A defines the operating condition and the state of the microgrid before the transient condition being tested occurs. Data contained in column B defines the operating condition and the state of the microgrid after the transient condition being tested has occurred.

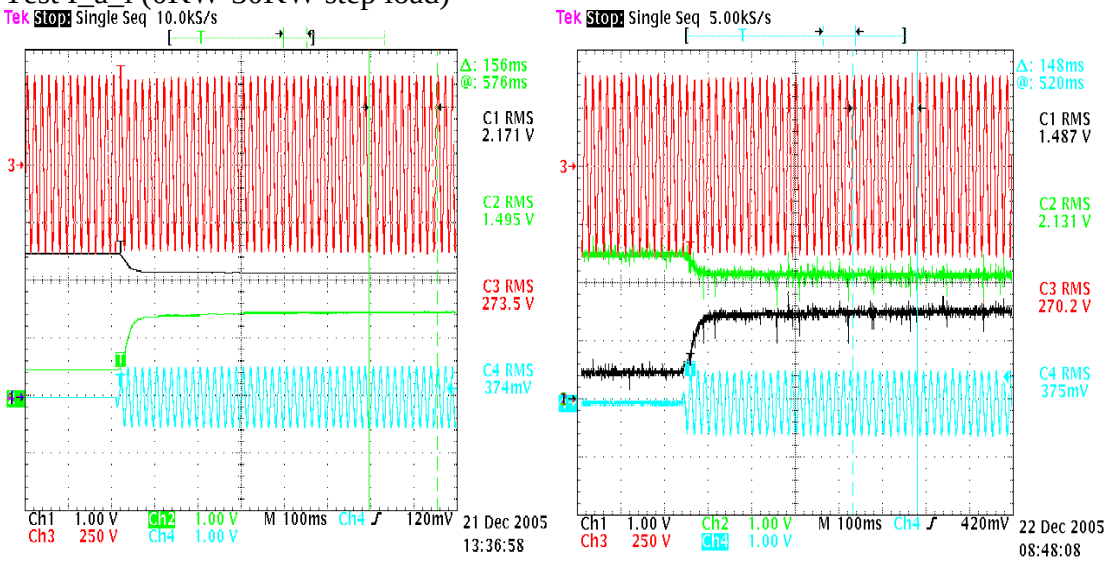
	A (Grid or Island)	B (Grid or Island)
Load Bank #1(S.P/Actual) KW	XX KW	XX KW
Load Bank #2(S.P/Actual) KW	XX KW	XX KW
Unit #1 (S.P/Pout) KW	XX KW Feeder or Unit	XX KW Feeder or Unit
Unit #2 (S.P/Pout) KW	XX KW Feeder or Unit	XX KW Feeder or Unit
Frequency Hz	XX.X Hz	XX.X Hz

Table 1 Sample Test Data Table

Phase One Testing:

Phase one testing consists of data taken while operating individual inverters in an islanded condition. The data provided in this section depicts step loads of various magnitudes applied on the inverter. In each test, the inverter is operated in unit power mode with a command of 20KW. In this section, the plots for the individual units and the information contained in each table are grouped together for ease of comparison. The units ARE NOT operating synchronized together as a microgrid.

Test I_a_i (0KW-30KW step load)



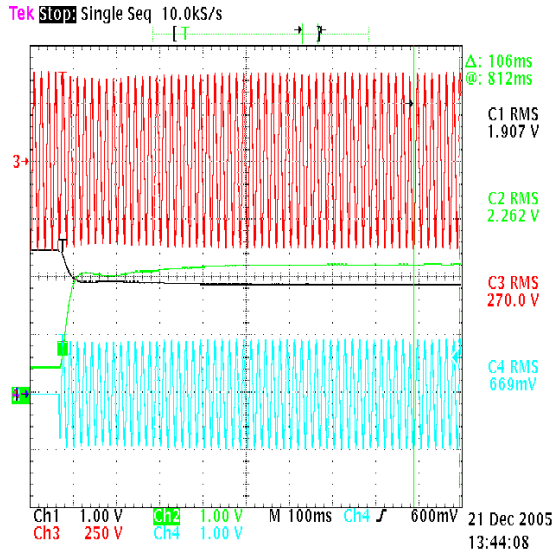
Unit #1 Transient Response Unit #2 Transient Response

Figure 1 Individual Inverter Transient Response 0 – 30 kW

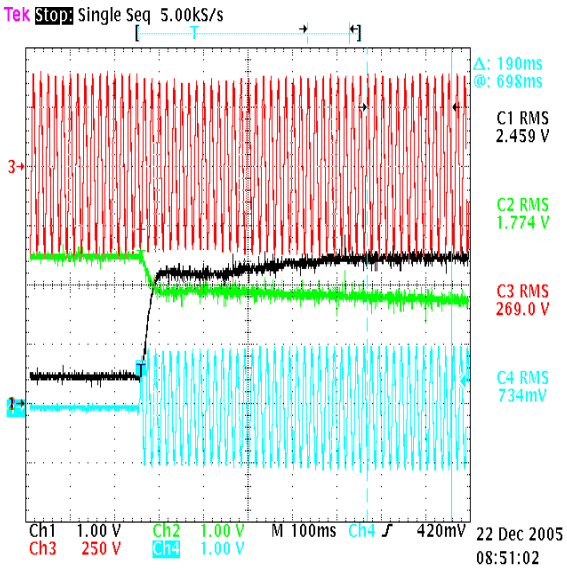
	A (Island)	B (Island)
Load Bank #1(S.P/Actual) KW	0.0/0.0 KW	30/31.4 KW
Load Bank #2(S.P/Actual) KW	0.0/0.0 KW	0.0/0.0 KW
Unit #1 (S.P/Actual) KW	20.0/0.0 KW Unit	20.0/30.7 KW Unit
Unit #2 (S.P/Actual) KW	20.0/0.0 KW Unit	20.0/30.3 KW Unit
Frequency Hz	60.12 Hz	59.91Hz

Table 2 Individual Inverter Transient Response 0 – 30 kW

Test I_a_ii (0KW-60KW step load)



Unit #1 Transient Response



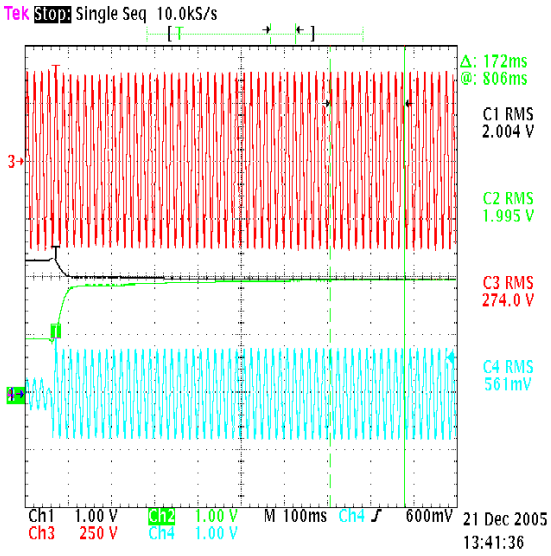
Unit #2 Transient Response

Figure 2 Individual Inverter Transient Response 0 – 60 kW

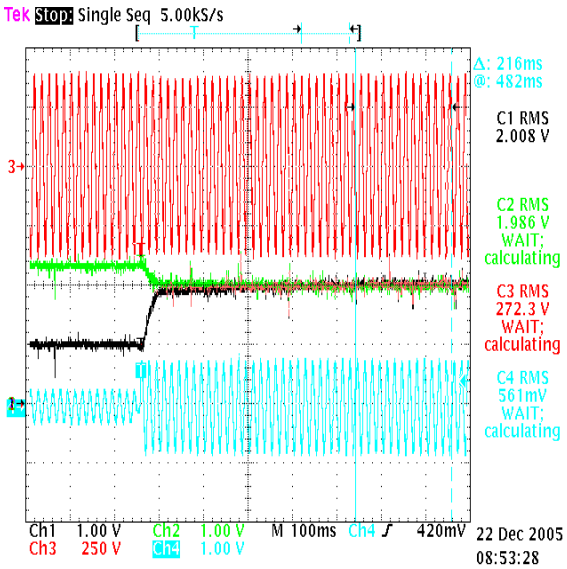
	A (Island)	B (Island)
Load Bank #1(S.P/Actual) KW	0.0/0.0 KW	60/62.8 KW
Load Bank #2(S.P/Actual) KW	0.0/0.0 KW	0.0/0.0 KW
Unit #1 (S.P/Pout) KW	20.0/0.0 KW Unit	20.0/54.1 KW Unit
Unit #2 (S.P/Pout) KW	20.0/0.0 KW Unit	20.0/59.2 KW Unit
Frequency Hz	60.12 Hz	59.61 Hz

Table 3 Individual Inverter Transient Response 0 – 60 kW

Test I_a_iii (15KW-45KW step load)



Unit #1 Transient Response



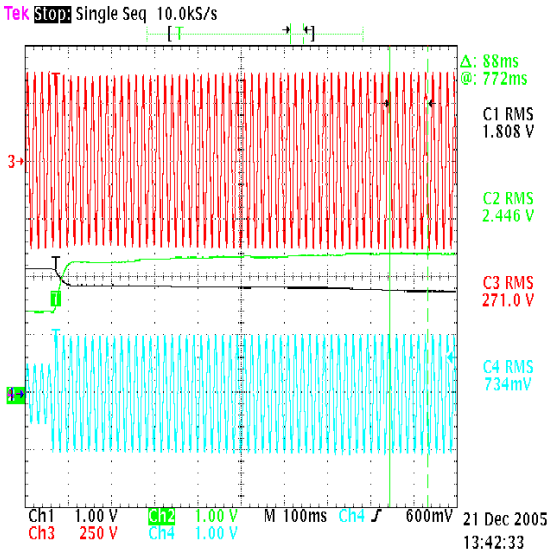
Unit #2 Transient Response

Figure 3 Individual Inverter Transient Response 15 – 45 kW

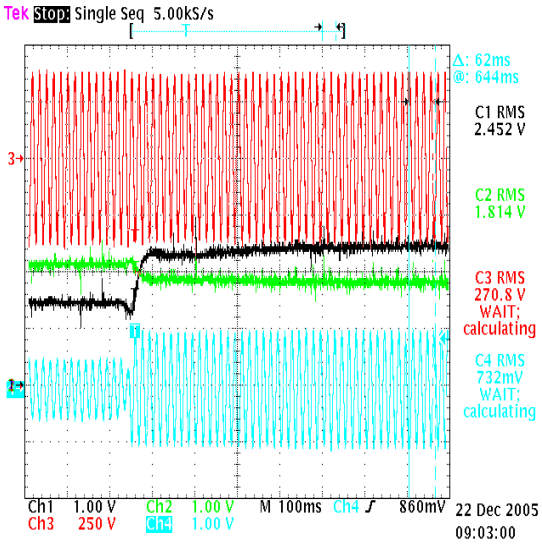
	A (Island)	B (Island)
Load Bank #1(S.P/Actual) KW	15.0/15.5 KW	45.0/47.1 KW
Load Bank #2(S.P/Actual) KW	0.0/0.0 KW	0.0/0.0 KW
Unit #1 (S.P/Pout) KW	20.0/15.5 KW Unit	20.0/46.1 KW Unit
Unit #2 (S.P/Pout) KW	20.0/15.3 KW Unit	20.0/45.8 KW Unit
Frequency Hz	59.99 Hz	59.77Hz

Table 4 Individual Inverter Transient Response 15 – 45 kW

Test I_a_iv (30KW-60KW step load)



Unit #1 Transient Response



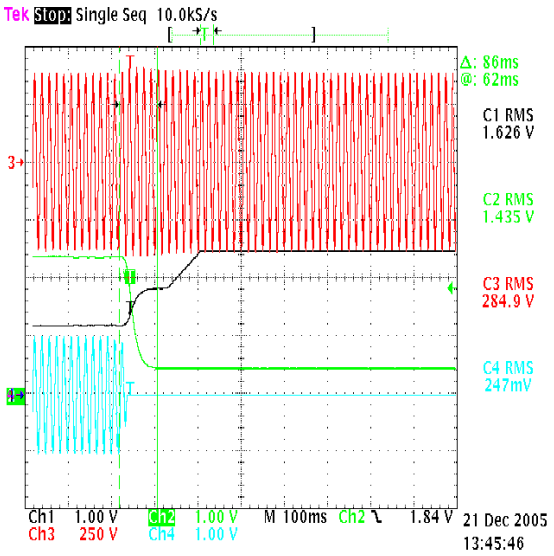
Unit #2 Transient Response

Figure 4 Individual Inverter Transient Response 30 – 60 kW

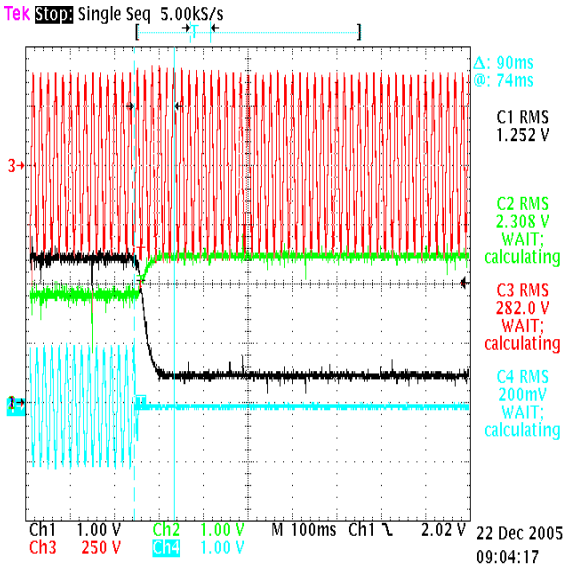
	A (Island)	B (Island)
Load Bank #1(S.P/Actual) KW	30.0/31.4 KW	60.0/62.8 KW
Load Bank #2(S.P/Actual) KW	0.0/0.0 KW	0.0/0.0 KW
Unit #1 (S.P/Pout) KW	20.0/30.7 KW Unit	20.0/59.6 KW Unit
Unit #2 (S.P/Pout) KW	20.0/30.3 KW Unit	20.0/59.4 KW Unit
Frequency Hz	59.92 Hz	59.57 Hz

Table 5 Individual Inverter Transient Response 30 – 60 kW

Test I_a_vi (60KW-0KW step load)



Unit #1 Transient Response



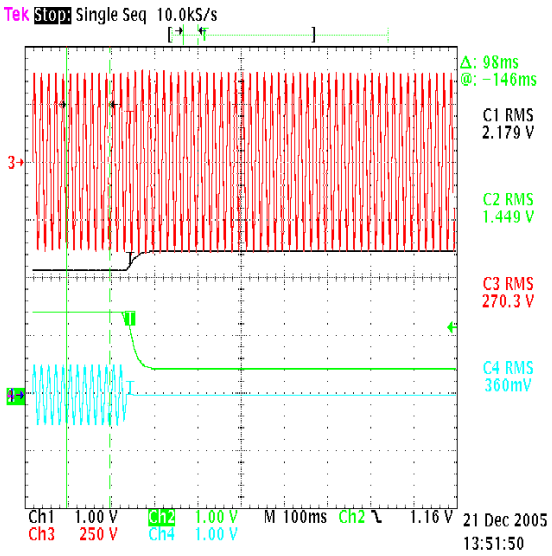
Unit #2 Transient Response

Figure 5 Individual Inverter Transient Response 60 – 0 kW

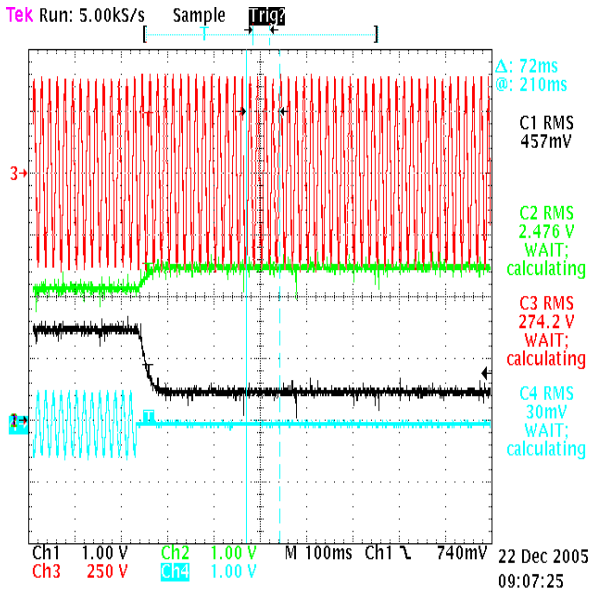
	A (Island)	B (Island)
Load Bank #1(S.P/Actual) KW	60.0/62.8 KW	0.0/0.0 KW
Load Bank #2(S.P/Actual) KW	0.0/0.0 KW	0.0/0.0 KW
Unit #1 (S.P/Pout) KW	20.0/59.6 KW Unit	20.0/0.0 KW Unit
Unit #2 (S.P/Pout) KW	20.0/59.4 KW Unit	20.0/0.0 KW Unit
Frequency Hz	59.62 Hz	60.12 Hz

Table 6 Individual Inverter Transient Response 60 – 0 kW

Test I_a_vii (30KW-0KW step load)



Unit #1 Transient Response



Unit #2 Transient Response

Figure 6 Individual Inverter Transient Response 30 – 0 kW

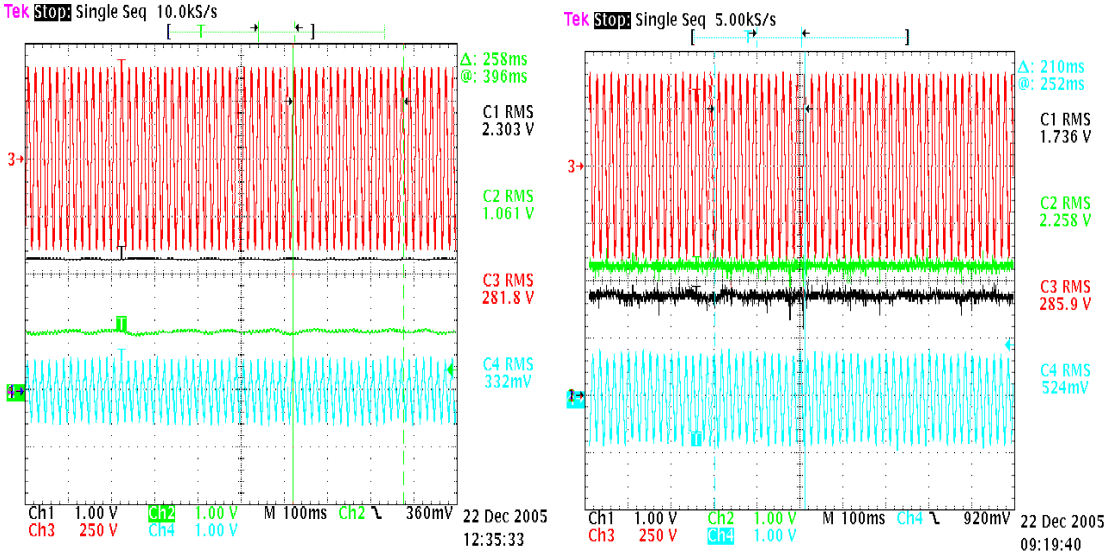
	A (Island)	B (Island)
Load Bank #1(S.P/Actual) KW	30.0/31.4 KW	30.0/0.0 KW
Load Bank #2(S.P/Actual) KW	0.0/0.0 KW	0.0/0.0 KW
Unit #1 (S.P/Pout) KW	XX KW Feeder or Unit	XX KW Feeder or Unit
Unit #2 (S.P/Pout) KW	XX KW Feeder or Unit	XX KW Feeder or Unit
Frequency Hz	59.91 Hz	60.13 Hz

Table 7 Individual Inverter Transient Response 30 – 0 kW

Phase Two Testing:

Phase two testing consists of two inverters connected in parallel operating in unit power control mode while connected to the grid, transitioning from a grid connection to an island case and while operating in an islanded case. The data provided in this section depicts various changes in the micro grid system including step loads, changes in commanded output power and changes in the state of the gird. For each test case, the initial conditions and the final conditions after the transient event of the micro grid occurred are given.

a. Unit Power Control Mode Grid Connected Evaluation
   i. Step Load Evaluation 1
      1. Load Bank #1 Start Load = 10KW
      2. Load Bank #2 Start Load = 20KW
      3. Unit A CMD = 20KW
      4. Unit B CMD = 40KW
      5. Load Bank #1 End Load = 70KW
      6. Load Bank #2 End Load = 20KW



Unit #1 Transient Response Unit #2 Transient Response

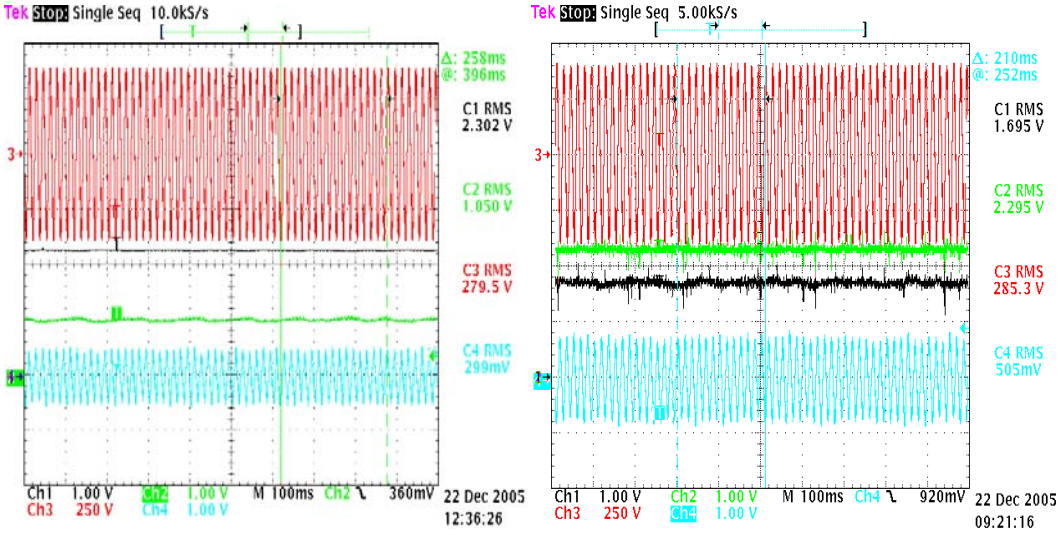
Figure 7 Parallel Inverters –Unit Power Control, Grid Connect–Step Load Evaluation 1

	A (Grid)	B (Grid)
Load Bank #1(S.P/Actual) KW	10.0/10.5KW	70.0/73.5 KW
Load Bank #2(S.P/Actual) KW	20.0/21.5 KW	20.0/21.5 KW
Unit #1 (S.P/Pout) KW	20.0/16.8 KW Unit	20.0/16.8 KW Unit
Unit #2 (S.P/Pout) KW	40.0/37.8 KW Unit	40.0/37.8 KW Unit
Frequency Hz	59.97 Hz	59.97 Hz

Table 8 Parallel Inverters –Unit Power Control, Grid Connect–Step Load Evaluation 1

ii. Step Load Evaluation 2

1. Load Bank #1 Start Load = 70KW
2. Load Bank #2 Start Load = 20KW
3. Unit A CMD = 20KW
4. Unit B CMD = 40KW
5. Load Bank #1 End Load = 25KW
6. Load Bank #2 End Load = 20KW



Unit #1 Transient Response Unit #2 Transient Response

Figure 8 Parallel Inverters –Unit Power Control, Grid Connect–Step Load Evaluation 2

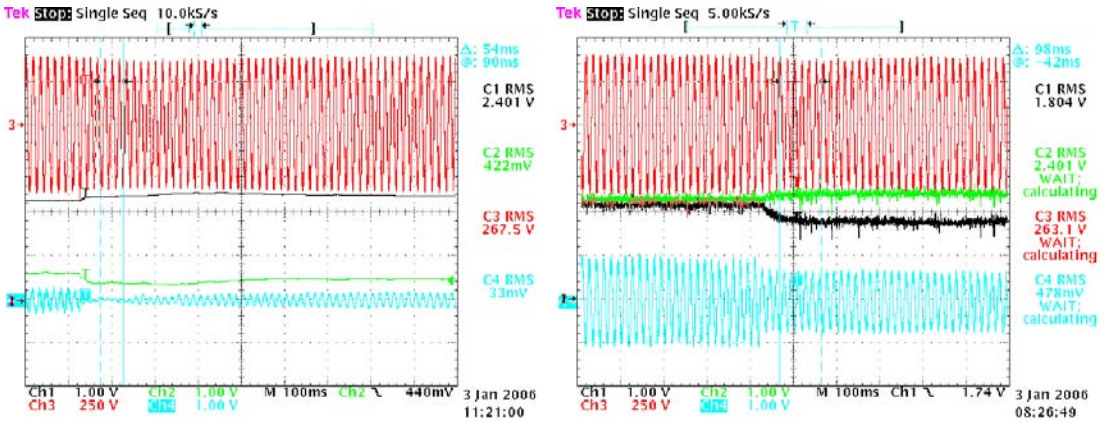
	A (Grid)	B (Grid)
Load Bank #1(S.P/Actual) KW	70.0/73.5 KW	25.0/26.1 KW
Load Bank #2(S.P/Actual) KW	20.0/21.5 KW	20.0/21.5 KW
Unit #1 (S.P/Pout) KW	20.0/16.5 KW Unit	20.0/16.5 KW Unit
Unit #2 (S.P/Pout) KW	40.0/36.8 KW Unit	40.0/36.8 KW Unit
Frequency Hz	60.01 Hz	60.01 Hz

Table 9 Parallel Inverters –Unit Power Control, Grid Connect–Step Load Evaluation 2

b.) Unit Power Control Mode Grid Tie to Island Transition Evaluation

i.)Unit Power Limit Evaluation

7. Load Bank #1 Start Load = 20KW
8. Load Bank #2 Start Load = 20KW
9. Unit A Power CMD = 6KW
10. Unit B Power CMD = 54KW
11. Transition to Island
12. Load Bank #1 End Load = 20KW
13. Load Bank #2 End Load = 20KW



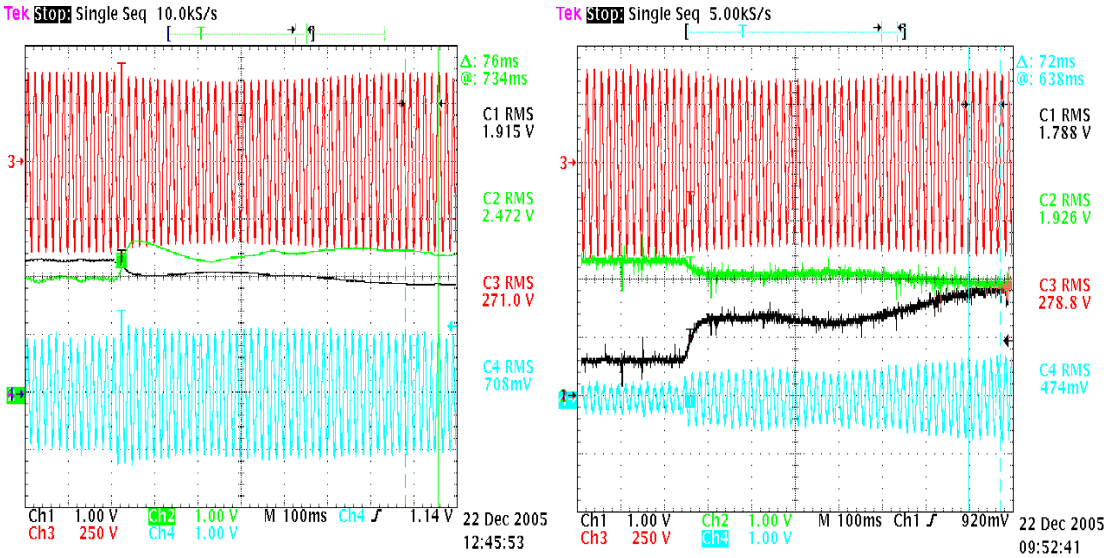
Unit #1 Transient Response Unit #2 Transient Response

Figure 9 Parallel Inverters - Unit Power Control – Grid to Island Transition

	A (Grid)	B (Island)
Load Bank #1(S.P/Actual) KW	20.0/21.5 KW	20.0/21.5 KW
Load Bank #2(S.P/Actual) KW	20.0/21.3 KW	20.0/21.3 KW
Unit #1 (S.P/Pout) KW	6.0/3.0 KW Unit	6.0/~0.0 KW Unit
Unit #2 (S.P/Pout) KW	54.0/51.0 KW Unit	54.0/39.1KW Unit
Frequency Hz	59.92 Hz	60.08 Hz

Table 10 Parallel Inverters - Unit Power Control – Grid to Island Transition

ii. Unit Power Limit Evaluation
14. Load Bank #1 Start Load = 60KW
15. Load Bank #2 Start Load = 40KW
16. Unit A Power CMD = 54KW
17. Unit B Power CMD = 6KW
18. Transition to Island
19. Load Bank #1 End Load = 60KW
20. Load Bank #2 End Load 40KW



Unit #1 Transient Response Unit #2 Transient Response

Figure 10 Parallel Inverters –Unit Power Control – Unit Power Limit Evaluation

	A (Grid)	B (Island)
Load Bank #1(S.P/Actual) KW	60.0/62.8 KW	60.0/62.8 KW
Load Bank #2(S.P/Actual) KW	40.0/42.3 KW	40.0/42.3 KW
Unit #1 (S.P/Pout) KW	54.0/50.0 KW Unit	54.0/60.1 KW Unit
Unit #2 (S.P/Pout) KW	6.0/3.0 KW Unit	6.0/39.0 KW Unit
Frequency Hz	59.99Hz	59.69Hz

Table 11 Parallel Inverters –Unit Power Control – Unit Power Limit Evaluation

c.) Unit Power Control Mode Island Evaluation

i.)Unit Power Limit Evaluation

1.) Load Bank #1 Start Load = 0KW
2.) Load Bank #2 Start Load = 50KW
3.) Unit A Power CMD = 0KW (will reduce frequency)
4.) Unit B Power CMD = 6KW (into energized line)
5.) Load Bank #1 End Load = 0KW
6.) Load Bank #2 End Load = 120KW

Unit 1 closes into an islanded 50KW load, Unit 2 is off

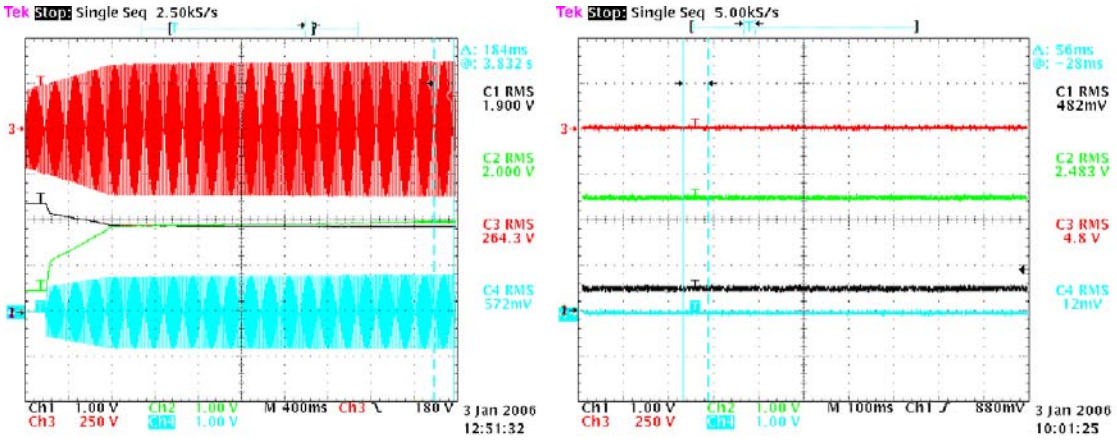
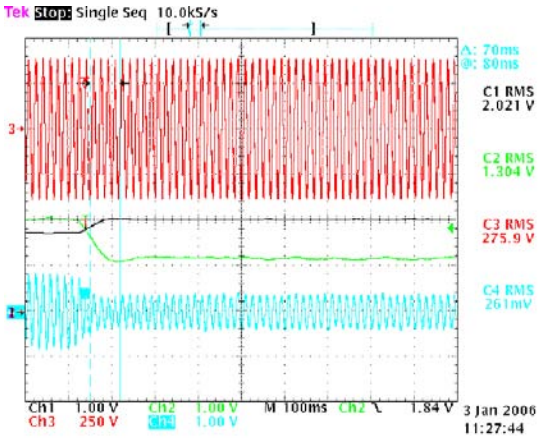


Figure 11 Parallel Inverters –Power Control, Island – Unit Power Limit Evaluation 1 (Step 1)

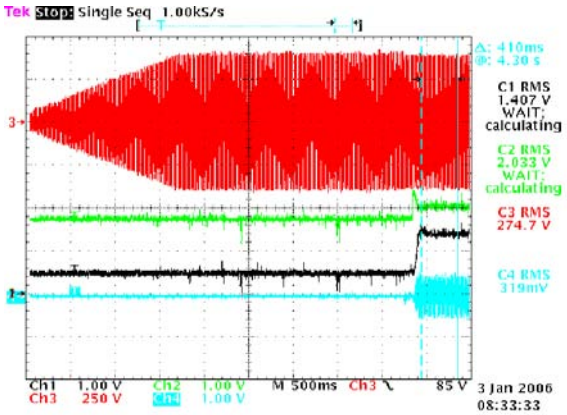
	A (Island)	B (Island)
Load Bank #1(S.P/Actual) KW	0.0/0.0 KW	0.0/0.0 KW
Load Bank #2(S.P/Actual) KW	50.0/51.6 KW	50.0/51.6 KW
Unit #1 (S.P/Pout) KW	6.0/0.0 KW Unit	6.0/49.5 KW Unit
Unit #2 (S.P/Pout) KW	NA	NA
Frequency Hz	60.12Hz	59.68 Hz

Table 12 Parallel Inverters – Power Control, Island – Unit Power Limit Evaluation 1 (Step 1)

50KW load on Unit 1 and then Unit 2 energizes into the islanded micro grid



Unit #1 Transient Response



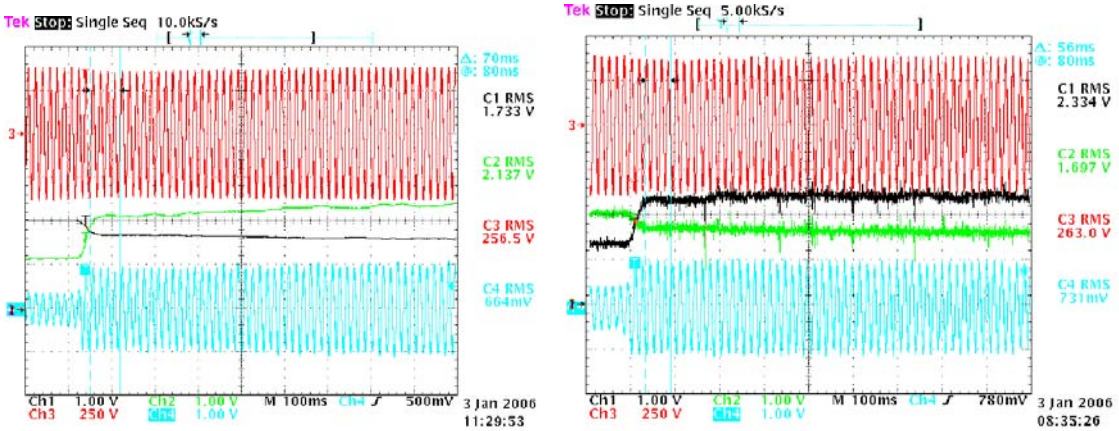
Unit #2 Transient Response

Figure 12 Parallel Inverters – Power Control, Island– Unit Power Limit Evaluation 1 (Step 2)

	A (Island)	B (Island)
Load Bank #1(S.P/Actual) KW	0.0/0.0 KW	0.0/0.0 KW
Load Bank #2(S.P/Actual) KW	50.0/51.6 KW	50.0/51.6 KW
Unit #1 (S.P/Pout) KW	0.0/49.1 KW Unit	0.0/21.8 KW Unit
Unit #2 (S.P/Pout) KW	6.0/0.0 KW Unit	6.0/26.2KW Unit
Frequency Hz	59.61 Hz	59.79 Hz

Table 13 Parallel Inverters – Power Control, Island – Unit Power Limit Evaluation 1 (Step 2)

Load change from 50Kw to 120KW



Unit #1 Transient Response Unit #2 Transient Response

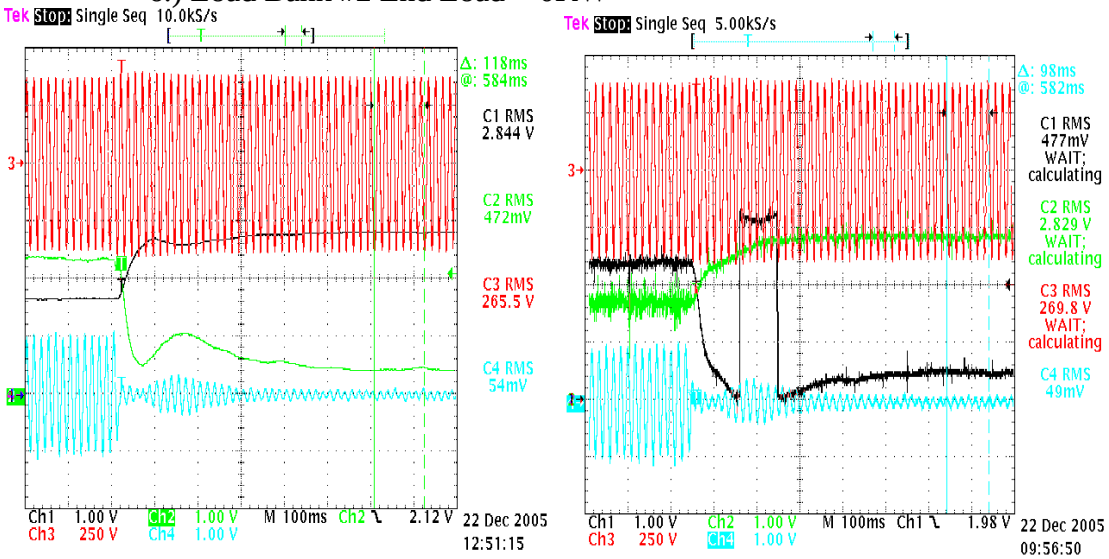
Figure 13 Parallel Inverters –Power Control, Island – Unit Power Limit Evaluation 1 (Step 3)

	A (Island)	B (Island)
Load Bank #1(S.P/Actual) KW	0.0/0.0 KW	0.0/0.0 KW
Load Bank #2(S.P/Actual) KW	50.0/51.6 KW	50.0/125.6 KW
Unit #1 (S.P/Pout) KW	0.0/21.8 KW Unit	0.0/58.6 KW Unit
Unit #2 (S.P/Pout) KW	6.0/26.2 KW Unit	6.0/57.9 KW Unit
Frequency Hz	59.79 Hz	59.45Hz

Table 14 Parallel Inverters – Power Control, Island – Unit Power Limit Evaluation 1 (Step 3)

ii.) Unit Power Limit Evaluation

1.) Load Bank #1 Start Load = 120KW
2.) Load Bank #2 Start Load = 0KW
3.) Unit A Power CMD = 54KW
4.) Unit B Power CMD = 6KW
5.) Load Bank #1 End Load = 0KW
6.) Load Bank #2 End Load = 0KW



Unit #1 Transient Response Unit #2 Transient Response

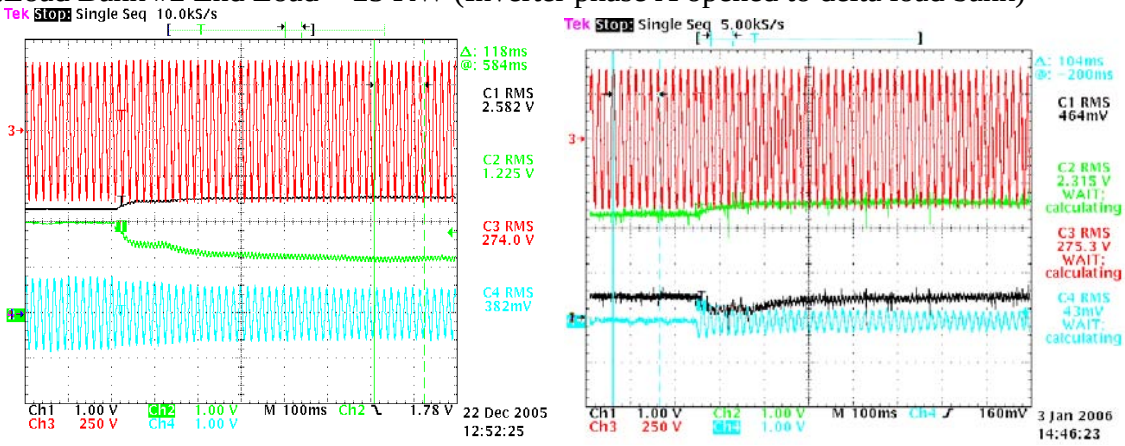
Figure 14 Parallel Inverters – Power Control, Island – Unit Power Limit Evaluation 2

	A (Island)	B (Island)
Load Bank #1(S.P/Actual) KW	120.0/124.6 KW	0.0/0.0 KW
Load Bank #2(S.P/Actual) KW	0.0/0.0 KW	0.0/0.0 KW
Unit #1 (S.P/Pout) KW	54.0/58.2 KW Unit	54.0/0.0 KW Unit
Unit #2 (S.P/Pout) KW	6.0/57.4 KW Unit	6.0/0.0 KW Unit
Frequency Hz	59.45 Hz	60.42 Hz

Table 15 Parallel Inverters – Power Control, Island – Unit Power Limit Evaluation 2

iii.Unbalanced Load

1.Load Bank #1 Start Load = 0KW
2.Load Bank #2 Start Load = 50KW
3.Unit A Power CMD = 54KW
4.Unit B Power CMD = 6KW
5.Load Bank #1 End Load = 0KW
6.Load Bank #2 End Load = 25 KW (Inverter phase A opened to delta load bank)



Unit #1 Transient Response Unit #2 Transient Response

Figure 15 Parallel Inverters – Power Control, Island – Unbalanced Load

	A (Island)	B (Island)
Load Bank #1(S.P/Actual) KW	0.0/0.0 KW	0.0/0.0 KW
Load Bank #2(S.P/Actual) KW	50.0/51.9 KW	33.3/34.6KW
Unit #1 (S.P/Pout) KW	54.0/45.6 KW Unit	54.0/23.0 KW Unit
Unit #2 (S.P/Pout) KW	6.0/0.0 KW Unit	6.0/3.0 KW Unit
Frequency Hz	60.01 Hz	60.22 Hz

Table 16 Parallel Inverters – Power Control, Island – Unbalanced Load

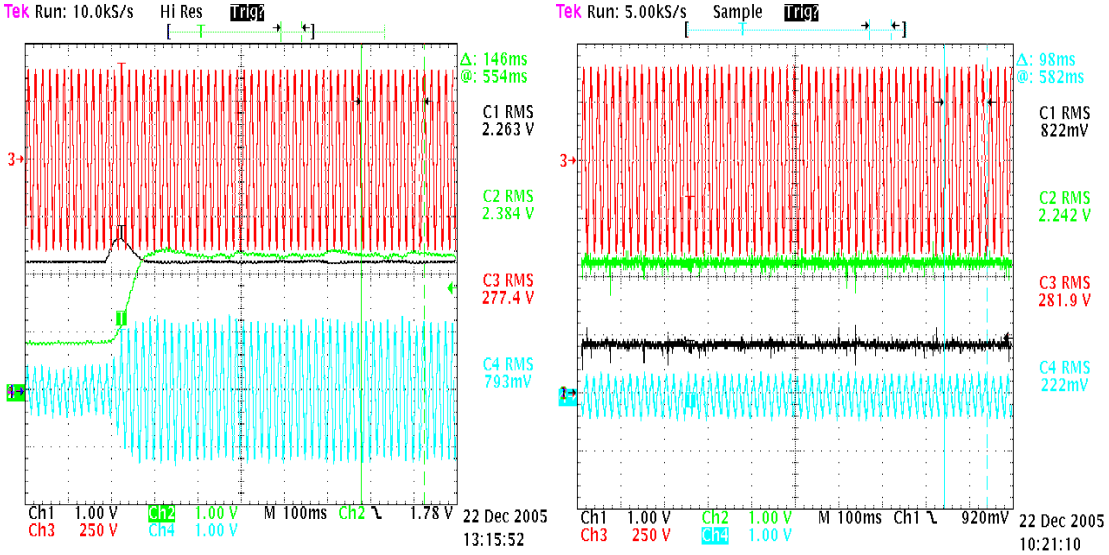
Phase Three Testing:

Phase three testing consists of two inverters connected in parallel operating with unit one operating in power control mode and unit two operating in unit flow control while connected to the grid, transitioning from a grid connection to an island case and while operating in an islanded case. The data provided in this section depicts various changes in the micro grid system including step loads, changes in commanded output power and changes in the state of the gird. For each test case, the initial conditions and the final conditions after the transient event of the micro grid occurred are given.

a. Grid Tie Feeder Control Mode Evaluation

i. Step Load Evaluation 1

1. Load Bank #1 Start Load = 35KW
2. Load Bank #2 Start Load = 35KW
3. Unit A Feeder CMD = 54KW
4. Unit B Power CMD = 6KW
5. Load Bank #1 End Load = 85KW
6. Load Bank #2 End Load = 35KW



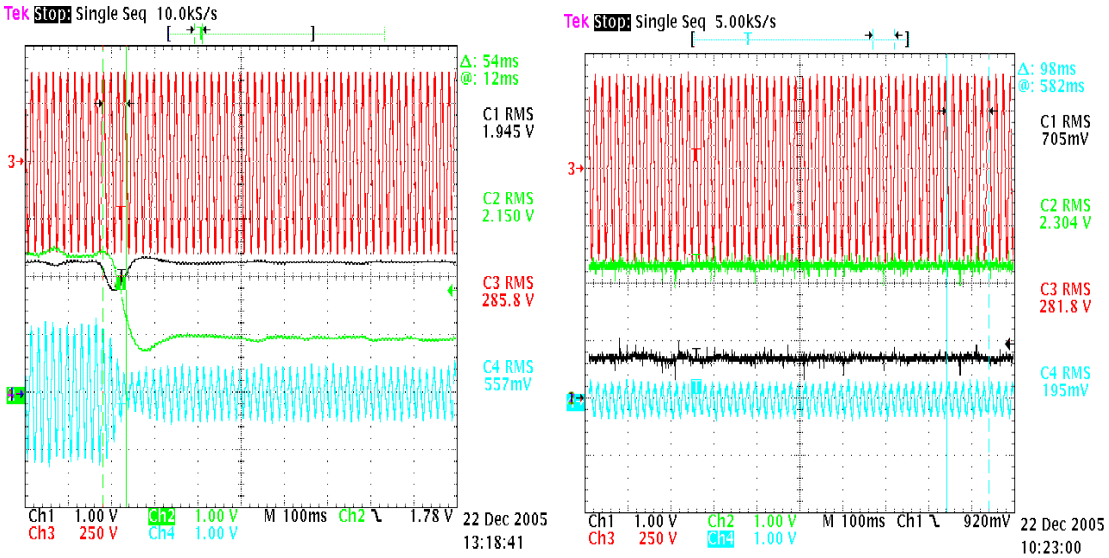
Unit #1 Transient Response Unit #2 Transient Response

Figure 16 Parallel Inverters – Feeder Control, Grid Tie – Step Load Evaluation 1

	A (Grid)	B (Grid)
Load Bank #1(S.P/Actual) KW	35.0/37.2 KW	85.0/88.1 KW
Load Bank #2(S.P/Actual) KW	35.0/36.9 KW	35.0/36.9 KW
Unit #1 (S.P/Pout) KW	54.0/8.2 KW Feeder	54.0/56.8 KW Feeder
Unit #2 (S.P/Pout) KW	6.0/7.2 KW Unit	6.0/7.2 KW Unit
Frequency Hz	59.97 Hz	59.96Hz

Table 17 Parallel Inverters – Feeder Control, Grid Tie – Step Load Evaluation 1

ii.) Step Load Evaluation 2
1.) Load Bank #1 Start Load = 85KW
2.) Load Bank #2 Start Load = 35KW
3.) Unit A Feeder CMD = 40KW
4.) Unit B Power CMD = 6KW
5.) Load Bank #1 End Load = 25KW
6.) Load Bank #2 End Load = 35KW



Unit #1 Transient Response Unit #2 Transient Response

Figure 17 Parallel Inverters – Feeder Control, Grid Tie – Step Load Evaluation 2

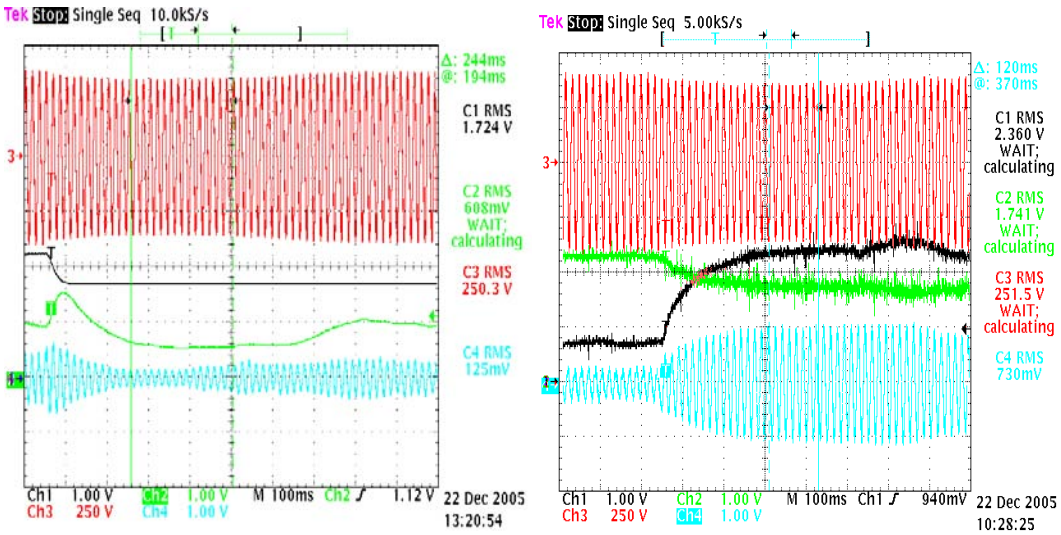
	A (Grid)	B (Grid)
Load Bank #1(S.P/Actual) KW	85.0/88.1 KW	35.0/37.2 KW
Load Bank #2(S.P/Actual) KW	35.0/36.9 KW	25.0/38.1 KW
Unit #1 (S.P/Pout) KW	40.0/61.1 KW Feeder	40.0/14.0 KW Feeder
Unit #2 (S.P/Pout) KW	6.0/ KW Unit	6.0/6.5 KW Unit
Frequency Hz	59.7 Hz	59.8 Hz

Table 18 Parallel Inverters – Feeder Control, Grid Tie – Step Load Evaluation 2

b. Feeder Control Mode to Island Transition Evaluation

i. Unit Power Limit Evaluation

1. Load Bank #1 Start Load = 35KW
2. Load Bank #2 Start Load = 35KW
3. Unit A Feeder CMD = 50KW
4. Unit B Power CMD = 6KW
5. Transition to island
6. Load Bank #1 End Load = 35KW
7. Load Bank #2 End Load = 35KW



Unit #1 Transient Response Unit #2 Transient Response

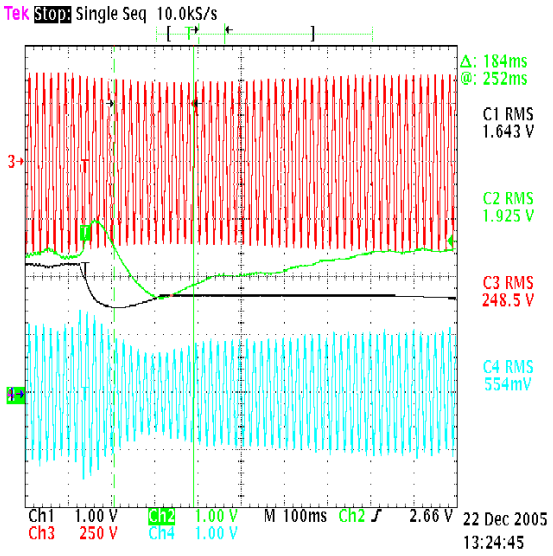
Figure 18 Parallel Inverters – Feeder Control, Island Transition – Unit Power Limit Evaluation 1

	A (Grid)	B (Island)
Load Bank #1(S.P/Actual) KW	35.0/37.2 KW	35.0/37.2KW
Load Bank #2(S.P/Actual) KW	35.0/36.9 KW	35.0/36.9 KW
Unit #1 (S.P/Pout) KW	50.0/9.0 KW Feeder	50.0/10.0 KW Feeder
Unit #2 (S.P/Pout) KW	6.0/ KW Unit	6.0/51.0 KW Unit
Frequency Hz	59.92 Hz	59.54 Hz

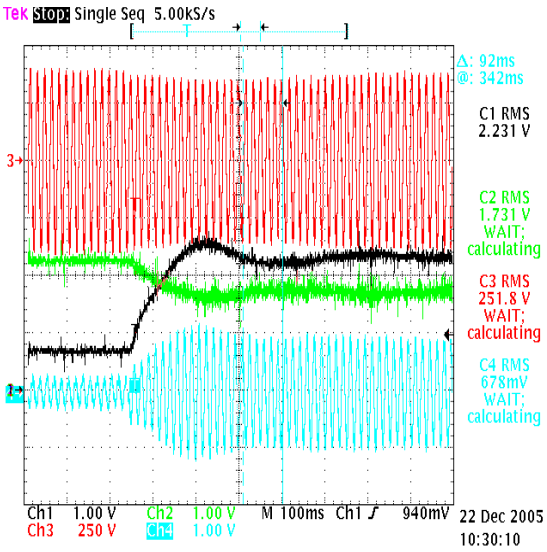
Table 19 Parallel Inverters – Feeder Control, Island Transition – Unit Power Limit Evaluation 1

ii. Unit Power Limit Evaluation

1. Load Bank #1 Start Load = 70KW
2. Load Bank #2 Start Load = 50KW
3. Unit A Feeder CMD = 54KW
4. Unit B Power CMD = 6KW
5. Transition to island
6. Load Bank #1 End Load = 70KW
7. Load Bank #2 End Load = 50KW



Unit #1 Transient Response



Unit #2 Transient Response

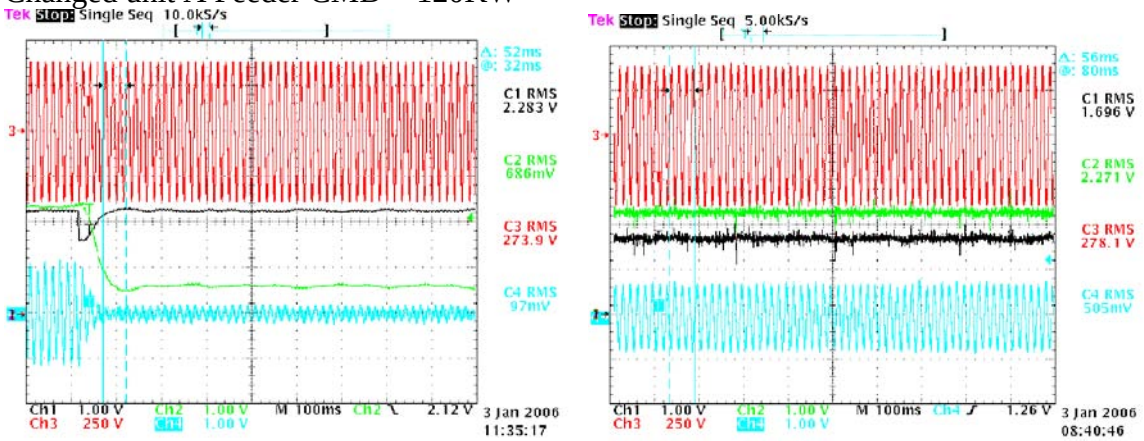
Figure 19 Parallel Inverters – Feeder Control, Island Transition – Unit Power Limit Evaluation 2

	A (Grid)	B (Island)
Load Bank #1(S.P/Actual) KW	70.0/73.5 KW	70.0/73.5 KW
Load Bank #2(S.P/Actual) KW	50.0/51.9KW	50.0/51.9KW
Unit #1 (S.P/Pout) KW	54.0/61.2 KW Feeder	54.0/61.2 KW Feeder
Unit #2 (S.P/Pout) KW	6.0/5.5 KW Unit	6.0/60.9 KW Unit
Frequency Hz	59.92 Hz	59.53 Hz

Table 20 Parallel Inverters – Feeder Control, Island Transition – Unit Power Limit Evaluation 2

c. Feeder Control; grid connected
i. Feeder control to check digital round-off.
1. Load Bank #1 Start Load = 80KW
2. Load Bank #2 Start Load = 80KW
3. Unit A Feeder CMD = 60KW
4. Unit B Power CMD = 40KW
5. Change unit A Feeder CMD = 120KW
6. Change unit B Power CMD = 10KW
7. Change unit A Feeder CMD = 150KW
8. Load Bank #1 End Load = 80KW
9. Load Bank #2 End Load = 80KW

Changed unit A Feeder CMD = 120KW



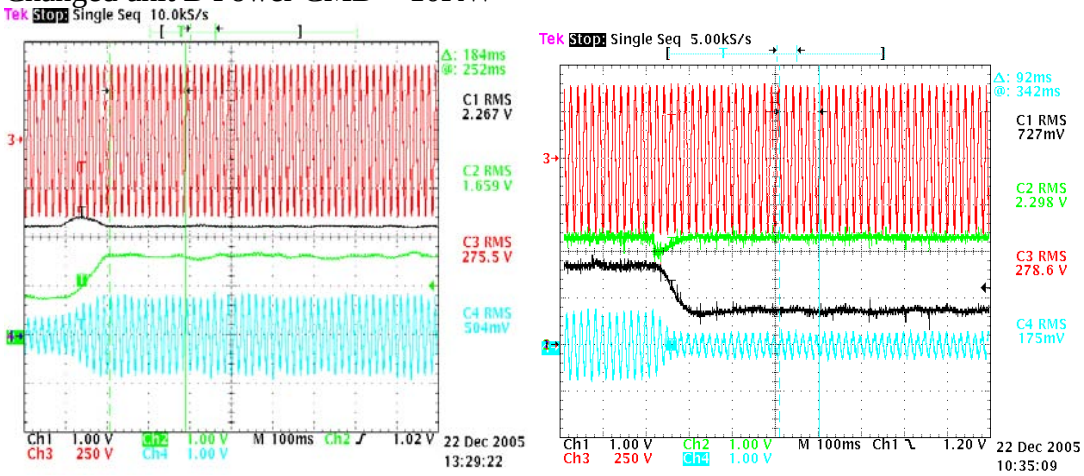
Unit #1 Transient Response Unit #2 Transient Response

Figure 20 Parallel Inverters – Feeder Control, Grid Connected – Digital Round-off Check 1

	A (Grid)	B (Grid)
Load Bank #1(S.P/Actual) KW	80.0/83.9 KW	80.0/83.9 KW
Load Bank #2(S.P/Actual) KW	80.0/84.3 KW	80.0/84.3 KW
Unit #1 (S.P/Pout) KW	60/57.5 KW Feeder	120.0/2.2 KW Feeder
Unit #2 (S.P/Pout) KW	40/37.5 KW Unit	40/37.5 KW Unit
Frequency Hz	59.97Hz	59.97 Hz

Table 21 Parallel Inverters – Feeder Control, Grid Connected – Digital Round-off Check 1

Changed unit B Power CMD = 10KW



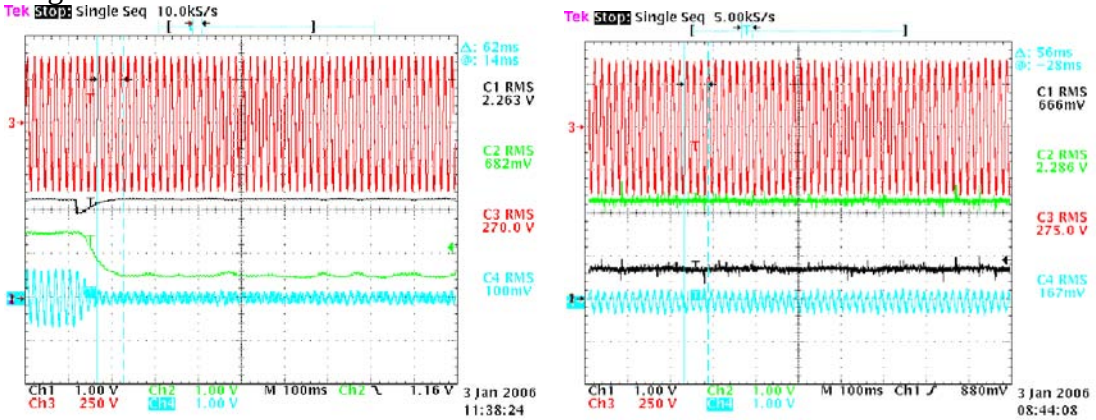
Unit #1 Transient Response Unit #2 Transient Response

Figure 21 Parallel Inverters – Feeder Control, Grid Connected – Digital Round-off Check 2

	A (Grid)	B (Grid)
Load Bank #1(S.P/Actual) KW	80.0/83.9 KW	80.0/83.9 KW
Load Bank #2(S.P/Actual) KW	80.0/84.3 KW	80.0/84.3 KW
Unit #1 (S.P/Pout) KW	120/2.2 KW Feeder	120.0/34.6 KW Feeder
Unit #2 (S.P/Pout) KW	40/37.5 KW Unit	10/8.3KW Unit
Frequency Hz	59.97Hz	59.99 Hz

Table 22 Parallel Inverters – Feeder Control, Grid Connected – Digital Round-off Check 2

Changed unit A Feeder CMD = 150KW



Unit #1.) Transient Response Unit #2.) Transient Response

Figure 22 Parallel Inverters – Feeder Control, Grid Connected – Digital Round-off Check 3

	A (Grid)	B (Grid)
Load Bank #1(S.P/Actual) KW	80.0/83.9 KW	80.0/83.9 KW
Load Bank #2(S.P/Actual) KW	80.0/84.3 KW	80.0/84.3 KW
Unit #1 (S.P/Pout) KW	120/34.6 KW Feeder	150.0/0.5 KW Feeder
Unit #2 (S.P/Pout) KW	10.0/5.5 KW Unit	10.0/5.5 KW Unit
Frequency Hz	59.98Hz	59.99 Hz

Table 23 Parallel Inverters – Feeder Control, Grid Connected – Digital Round-off Check 3