g GE Energy Services	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-DS3820WCTx**

Test Procedure for a Water Cooled Assembly

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DATE	**DATE**	**DATE**	**DATE**
12/2/2015	12/2/2015		12/2/2015

Test Procedure for a Water Cooled Assembly

1. SCOPE

1.1 This is a functional testing procedure for a water cooled SCR

2. STANDARDS OF QUALITY

2.1 Refer to the current revision of the IPC-A-610 standard for workmanship standards.

3. APPLICABLE DOCUMENTS

3.1 The following document(s) shall form part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue shall apply.
3.1.1

4. ENGINEERING REQUIREMENTS

4.1 Equipment Cleaning
- **4.1.1** Equipment should be clean and free of debris prior to applying power unless performing an initial check. Refer to the local documented procedures for cleaning guidelines.

4.2 Equipment Inspection
- **4.2.1** Equipment should be visually inspected for any defects prior to applying power. This inspection should include the following as a minimum:
  - **4.2.1.1** Wires broken or cracked
  - **4.2.1.2** Terminal strips / connectors broken or cracked
  - **4.2.1.3** Loose wires
  - **4.2.1.4** Components visually damaged
  - **4.2.1.5** Capacitors leaking
  - **4.2.1.6** Solder joints damaged or cold
  - **4.2.1.7** Circuit board burned or de-laminated
  - **4.2.1.8** Printed wire runs burned or damaged

5. EQUIPMENT REQUIRED

5.1 The following equipment is required to perform the process requirements. Equipment may be substituted provided that all accuracy's and test ratios are equivalent or better.

Qty	Reference #	Description
1	H188966	TEST FIXTURE(Firing box)
1		Fluke 85 DMM or Equiv.
1		+ 15 VOLT POWER SUPPLY
1		O-scope

6. TESTING PROCESS

6.1 Setup

6.2 H188966 Firing box and connect it to the Terminal block on the cell stack.

6.3 From the Firing Box connect the three fiber optic cables from light gray transmit to dark gray receive to the Cell Stack. repeat (X3).

6.4 Connect Scope current Probe to Gate of firing Card, (pin 4 of PL2 term block).

6.5 Connect AC current loop output to the Terminal block on the base of the Cell Stack, (this is the AC power for the Firing Cards**).**

7. TEST

7.1 Apply power to the Firing Box, (this should power on all the Firing Cards.)

7.2 Verify that D10 Red LED and D8 yellow LED's on all Cards and lit.

7.3 Connect the Scope current probe to each of the gate firing cards and verify as per Figure 1

7.4 Power off the Firing Box

7.5 Remove the Fiber Optic cables from all Cards.

7.6 Connect a 0-15 volt power supply across Resistor (pin1-2 of PL2) ensure power supply is set to zero.

7.7 Power on the Firing Box, verify yellow D8 is on.

7.8 Power on the 15 volt power supply, slowly adjust power supply to .9 volts, D9 should light. (D8 and 9 should be lit), verify no signal on Scope.

7.9 Continue to increase 15 volt power supply to appx 13.6v D9 should go off and scope should have firing pulse (as per Figure 1) this is a self firing pulse. Verify all three cards

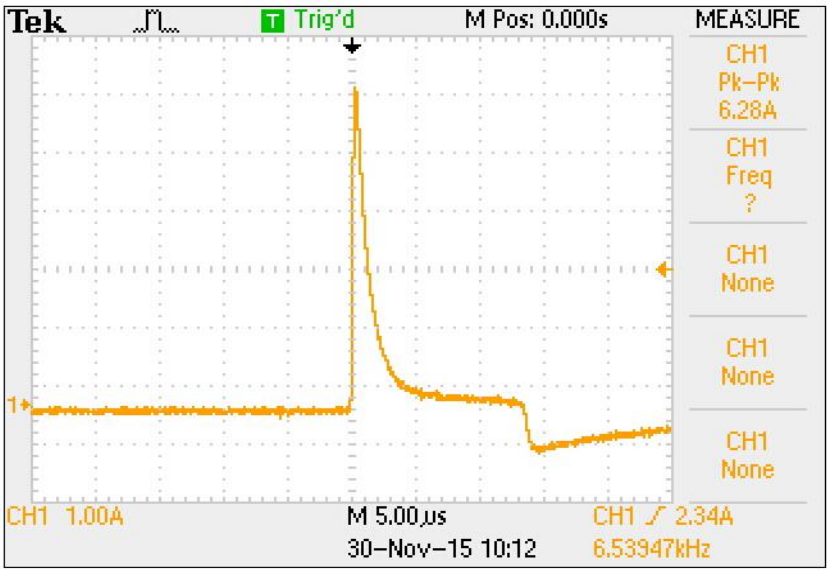

Figure 1

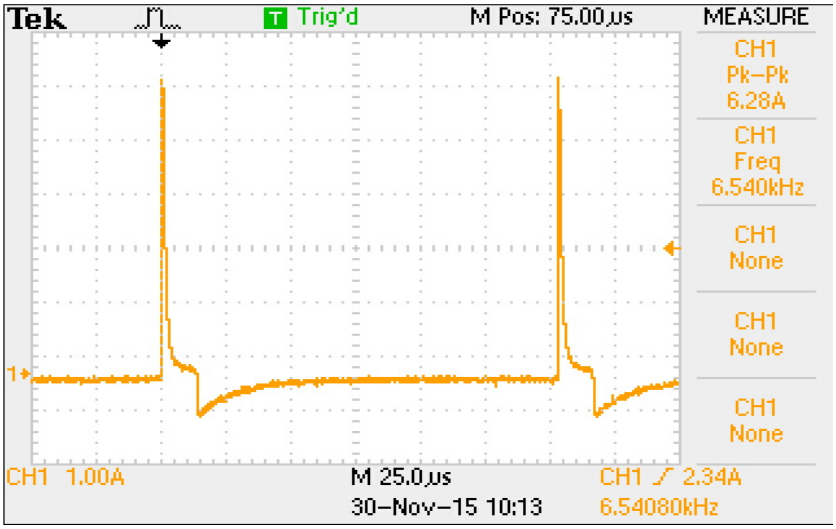

Figure 1

7.10 ***TEST COMPLETE ***

7. NOTES