g GE Energy Services	**Functional Testing Specification**
Parts & Repair Operations ***Louisville, KY***	**LOU–GED-DS200FCRL-A**

Test Procedure for a Local Firing Circuit Card

DOCUMENT REVISION STATUS: Determined by the last entry in the "REV" and "DATE" column

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	John Madden	9/28/06
B			
C			

PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
John Madden			Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
September 28, 2006			9/29/2006

1. SCOPE

1.1 This is a functional testing procedure for a DS200FCRL Card.

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 K:\DS\DS200\DS200F\FCRL\ECN
3.1.2 K:\DS\DS200\DS200F\FCRL\Prints
3.1.3 K:\DS\DS200\DS200F\FCRL\AF Material List.pdf

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, cracked, or loosely connected
4.2.1.2 Terminal strips / connectors - broken or cracked
4.2.1.3 Components - visually damaged
4.2.1.4 Capacitors - bloated or leaking
4.2.1.5 Solder joints - damaged or cold
4.2.1.6 Circuit board - burned or de-laminated
4.2.1.7 Printed wire runs / Traces - 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		Fluke 87 DMM (or Equivalent)
2		Tenma dual power supplies or equivalent
1		12 circuit Fiber optic transmitter (like the one found in the GGXI test kit)

6. TESTING PROCESS

6.1 Setup

6.1.1 Connect power as follows: **COM** to 2PL-4 or 7, **P5** to 2PL-5 or 6, **P24** to 2PL-9, & **N24** to 2PL-8.

6.1.2 Set all jumpers on card as follows:

JUMPER	1-2	2-3
JP1-12		**X**
JP13-15	**X**	
JP16-27		**X**
JP28	**X**	

6.1.3 Connect the 12-circuit fiber optic transmitter board from the GGXI test kit to 12VDC power. Take two fiber optic cables and plug them in to the two blue receivers located on unit under test.

Note: No special notes at this time (Test Revision A)

6.2 Testing Procedure

6.2.1 Apply power to card and transmitter board. Both of the green "Power Supply OK" and "Healthy" LED's should light up, along with the "Healthy" fiber optic transmitter **TX-H**. Unplugging one or both of the fiber optic cables should cause the K1 relay to drop out, and CR19 "Healthy" LED and TX-H transmitter to go out. Both JP14 & 15 must be in the 1-2 position for this operation to take place. If either JP14 or JP15 are in the 2-3 position, then the particular receiver each is connected to is bypassed (ignored) by the circuit and won't cause the "Healthy" LED or transmitter to drop out when unplugged. Be sure to measure the contact resistance of K1 through it's various connections at the FLTPL connector (N/O: FLTPL-2 to FLTPL-1, & FLTPL-5 to FLTPL-4; N/C: FLTPL-2 to FLTPL-3, & FLTPL-5 to FLTPL-6)

6.2.2 At the power supply, unplugging either P5 or P24 should cause the "Power Supply OK" LED CR18 to go out if JP13 is in position 1-2. Unplugging N24 should cause no such operation.

6.2.3 Attenuator circuits DCP and DCN may have different value resistors depending on which Gx version you're testing. Be sure to refer to SH4CA of the schematic to verify what you should read here.

6.2.4 Disconnect all other connections. Take P5 and connect it to 5PL-2. Take COM and to connect it first to 5PL-1. TFXA6 and TFXB6 should light up. The following table shows the full list of inputs and which transmitters go with them. The P5 at 5PL-2 will remain while you move the COM through the odd numbered pins of 5PL to change your outputs:

COM	Transmitters
5PL-1	TXFA6 & TXFB6
5PL-3	TXFA5 & TXFB5
5PL-5	TXFA4 & TXFB4
5PL-7	TXFA3 & TXFB3
5PL-9	TXFA2 & TXFB2
5PL-11	TXFA1 & TXFB1
5PL-13	TXRA1 & TXRB1
5PL-15	TXRA2 & TXRB2
5PL-17	TXRA3 & TXRB3
5PL-19	TXRA4 & TXRB4
5PL-21	TXRA5 & TXRB5
5PL-23	TXRA6 & TXRB6

6.2.5 That's all folks…

6.3 Post Testing Burn-in **Required** ___ **Yes** _**X**_ **No**

6.4 ***TEST COMPLETE ***

7. NOTES

7.1

8. ATTACHMENTS

8.1