g GE Energy Services *Parts & Repair Services* *Louisville, KY*	**Functional Testing Specification** **LOU-GED-DS3800NHVB**

Test Procedure for a High Voltage Card

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release written for DS3800NHVB.	G. Chandler	3/14/2008

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DATE	**DATE**	**DATE**	**DATE**
03/14/2008	3/14/2008		3/17/2008

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Functional test procedure for High Voltage Card

1. SCOPE

1.1 This is a functional testing procedure for a High Voltage 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 UUT documentation folder

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		Fluke 85 DMM (or Equivalent)
1		O-Scope
1		115 VAC line cord
1		28 VDC Power Supply
1		SCR Firing Box

6. TESTING PROCESS

6.1.1 Attenuator Resistor Test (Voltage) NHVB

6.1.1.1 To test the attenuator resistors, 10.000VDC+/- 1 mv is input with the polarity indicated and the output is read from output pin listed to JT (COM).

IN (+)	IN (-)	Output	Nom. Voltage	Max. Range
JD2-1	JD2-11	JA-28	-61.2 mv	-58.3 to –64.1 mv
		JA-17	+30.8 mv	+29.1 to +32.1 mv
		JA-27	+30.8 mv	+29.1 to +32.1 mv
JD2-6	JD2-11	JA-19	+45.8 mv	+ 44.1 to +47.7 mv
		JA-28	-45.8 mv	-44.1 to -47.7 mv
JD2-11	JD2-1	JA-28	+61.2 mv	+53.3 to +64.1 mv
		JA-27	-30.8 mv	-29.1 to –32.1 mv
		JA-17	-30.8 mv	-29.1 to –32.1 mv
JD1-1	JD1-7	JA-23	+45.9 mv	+44.8 to +47.0 mv
		JA-21	-45.9 mv	-44.8 to –47.0 mv
		JA-32	+45.9 mv	+44.8 to + 47.0 mv
		JA-29	-45.9 mv	-44.8 to –47.0 mv

6.1.2 CT INPUT TEST: (NHVB)

6.1.2.1 Connect a 28-ohm 2W resistor across the daughter board terminals 1A and ACOM. Connect a scope across the resistor. Apply an isolated 6.3VAC (USE AN ISOLATION TRANSFORMER WITH THE VARIAC) to JC-1-JC-6. See a full wave waveform of only positive peaks approx. 7.7volts high.

6.1.2.2 Move the AC input to JC-2 – JC-3 and see the same waveform.

6.1.2.3 Move the AC input to JC-4 – JC-5 and see the same waveform. Disconnect the input, resistor and scope.

6.1.3 CT CLAMP TEST: (NHVB)

6.1.3.1.1 Apply +28V through a 180 ohm 2 watt resistor to JA34 (+) and JA20 (-). The voltage at JA34 (+) to JA20 (com) must be 16V +/- 2V.

6.1.4 Neon Lamp Test

6.1.4.1 Connect the AC line cord per table 2 and apply power to check each neon. Neon glows dimly on 120 VAC.

DS3800NHVB	Point A	Point B	Neon
Circuit # 1	JE-8	JE-2	DS1
Circuit # 2	JF-8	JF-3	DS-3
Circuit # 3	JG-8	JG-2	DS-5
Circuit # 4	JH-8	JH-1	DS-2
Circuit # 5	JJ-8	JJ-3	DS-4
Circuit # 6	JK-8	JK-3	DS-6

6.1.5 Firing Circuit & LED Test

6.1.5.1 Using the information in the table apply a non-isolated negative pulse from the SCR Firing box to each circuit and verify with the scope a controllable pulse train output on each circuit.

6.1.5.2 Verify that the LED for each circuit illuminates dimly using the information in this table.

DS3800NHVB	SCR Box COM	SCR Box NEG	Scope +	Scope -	28VDC +	28VDC-
Circuit # 1	JA-3	JA-4	JE-1	JE-2	JA-1	TAB
Circuit # 2	JA-3	JA-6	JF-1	JF-3	JA-1	TAB
Circuit # 3	JA-3	JA-8	JG-3	JG-2	JA-1	TAB
Circuit # 4	JA-3	JA-10	JH-2	JH-1	JA-1	TAB
Circuit # 5	JA-3	JA-12	JJ-1	JJ-3	JA-1	TAB
Circuit # 6	JA-3	JA-14	JK-2	JK-3	JA-1	TAB

Note 1: NHVB amplitude is 17 volts.
Note 2: 28 VDC COM to SCR Box COM

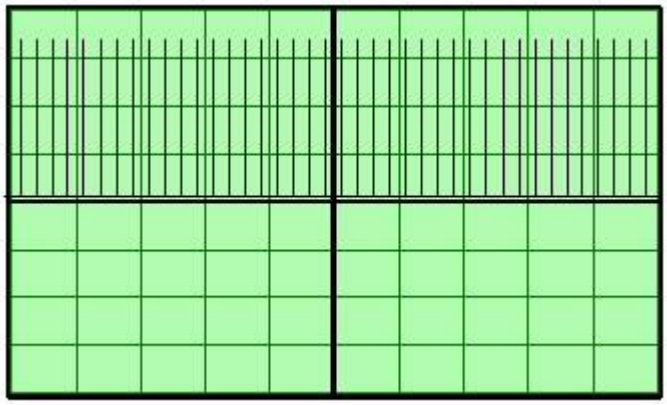
*6.2 *TEST COMPLETE * SEAL POTS ON TEMP SENSOR CARDS*

7. NOTES

Output voltages (Waveforms) of gate circuits are measured with output unloaded.

8. Oscilloscope Verification Examples:

Fig. 1



DS3800NHVB 17V Peak 5V/Div .5ms/Div