g GE Energy	**Functional Testing Specification**
Renewal Services ***Louisville, KY***	**LOU–GED-IC3605EXCITER**

Test Procedure for a IC3605C080NP360FGAN & Y SCR Exciter

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Functional test procedure for a SCR Exciter

1. SCOPE

1.1 This is a functional testing procedure for a IC3605C080NP360FGAN,Y

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 Documentation in Shop 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		15VDC Variable supply
2		240v lamp loads

6. TESTING PROCESS

6.1 Setup

6.1.1

Note: THIS IS A "CARDS PRETESTED" OP TEST. IF UNIT IS TO BE REPAIRED, REMOVE FILTER CARDS AND OTHER CIRCUIT CARDS AND REPAIR AND TEST SEPARATELY. PERFORM STATIC TEST ON SCRS BEFORE REMOVING FILTER CARDS.

6.2 Testing Procedure

6.2.1 With ohmmeter check for 22K resistance on filter cards from pins 4,5 to pins 16,17. If SCR is shorted A-K reading will be very low. If the reading is less than 20K check resistors on filter card.

6.2.2 With Ohmmeter check for approx. 20 ohms (Cathode to gate resistance) between the following points on the filter cards: P1G pin 15 to P output terminal; P2G pin 15 to P output terminal; N1g Pin 15 to L1 AC terminal; N2G pin 15 to L2 AC terminal. If reading is very high ohms the SCR has been installed upside down. If reading is very low SCR has G-K short.

6.2.3 Connect 2 300W 240v bulbs in series and connect this combination across the P and N output terminals. Connect a DC meter across the lamps.

6.2.4 Connect a 0-15VDC power supply to the terminal strip card. Connect + to C and – to S. Adjust for zero volts.

6.2.5 Apply 460 VAC single phase to L1 and L2. The filter card lamps should light dimly but the test bulbs should not light and the DC output voltage should be less than 15v. If output voltage is higher, adjust bias control on terminal strip card for less than 15 v. Increase the negative voltage on S with the variable supply. The filter card lamps will go out. The bulb brilliance and output voltage should be adjustable up to approx. 360 VDC by applying no more than -15V to S. Remove all voltages.

6.3 ***TEST COMPLETE ***

7. NOTES

7.1 None at this time

8. Oscilloscope Verification Examples:

If the unit passes the test to this point it must be tested at a high current. Connect unit to the 220VAC high current source on the motor wall (DO NOT APPLY POWER AT THIS TIME). Use the P frame load stand (PF2), fixture #H188761, as your load in place of the light bulbs. Connect current clamp meter around load wire to monitor current. Connect a scope in the differential mode (using the X100 scope leads) across the output. Apply power to unit and adjust the 0V-15V power supply for 50 amps on the current meter. Verify the output waveform.