g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-IS200SRLY**

Test Procedure for an IS200SRLY relay card.

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

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J. Francis			Charlie Wade
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1. SCOPE

1.1 This is a functional testing procedure for an IS200SRLY MARK 6e Simplex Relay 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 Check board's electronic folder for more information.

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 site specific SRA's 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	H188922	Mark 6e Simplex Test Rack with computer

6. TESTING PROCESS

6.1 Testing Procedure

Note: The following tests assume you are familiar with using ToolboxST. You will need to perform downloads at least twice for UUT to be setup fully. You must also wait for approximately 3 minutes in between downloads for rack and UUT to reboot.

6.1.1 Turn "OFF" SW1 on JPDD card, just above NTRON Switches on front of test rack.

6.1.2 Remove test card (GOLD card) from test rack and install Unit Under Test (UUT) into test rack.

6.1.3 Turn "ON" SW1 on JPDD card. Wait for test rack to fully boot, approximately 3 minutes.

6.1.4 Open **ToolboxST** and open "**UCSAH1A_Simplex_Vle**" by double-clicking on it and click the "ONLINE" button in the toolbar.

6.1.5 Click on the "HARDWARE" tab, then click on the "+" sign next to the "Simplex" group under the "Distributed IO" icon. This will show you all of the modules setup in the rack. The PDOA module should have a red circle with an X through it, indicating no communications.

6.1.6 Double click on the "X" on the PDOA Module. This will bring up a configuration box to enter the serial number of the UUT and hardware form (with daughter card). Click "OK" button when done.

6.1.7 From the menu, Download Controller Setup by going to **Device->Download->Download Wizard.** Follow instructions in dialog boxes that follow.

Note: The following portions of the test assume you are familiar with using ToolboxST. You will need to perform downloads at least twice for UUT to be setup fully. You must also wait for approximately 3 minutes in between downloads for rack and UUT to reboot.

6.1.8 After all downloads completed successfully, bring unit online in ToolboxST and check that the red circle with an X through it is gone and ToolboxST will communicate with PDOA Module.

6.1.9 Click on the "OUTPUTS" tab to the right of the PDOA icon. Should display the "LIVE VALUES" in green. All values should be false at this time, leaving all 12 relays de-energized. Also, check LED's at front top left of test rack. All 12 of the amber LED's should be lit. This indicates the Normally Closed (N/C) circuitry is operating as expected.

6.1.10 Double click one the Relay live values (in green) box and toggle live value to “TRUE”. Check that the amber LED for the relay has gone out and the corresponding green LED for that relay has lit. This indicates that the Normally Open (N/O) circuitry for the relay is operating as expected. Do this step for all 12 relays.

6.1.11 Let unit run online for at least 48 hours.

6.1.12 After testing has been completed successfully, remove UUT, reinstall GOLD card, and verify successfully operation in ToolboxST.

6.2 ***TEST COMPLETE ***

7. NOTES

7.1 Live View screens will be forthcoming and tests will be amended as needed.

8. ATTACHMENTS

8.1 None at this time.