g GE Energy	**Functional Testing Specification**
Inspection & Repair Services ***Louisville, KY***	**LOU-GEF-CPU2**

Test Procedure for CPU2 Printed Circuit Board

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Functional test procedure for CPU2 Printed Circuit Board

1. SCOPE

1.1 This specification provides the Engineering Requirements for testing the CPU2 printed circuit board. The process applies only to CPU2 boards model number 44A399734-G01.

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 **GEK-36093** Diagnostic Software for 1050T Controls
3.1.2 **GEK-71632** Diagnostic Software for 1050MC Controls
3.1.3 **GEK-45668** Computer Access Panel

4. ENGINEERING REQUIREMENTS

4.1 Description

4.1.1 The 1050 Control is a solid-state, integrated circuit controller/processor system using LSI circuits for data processing and control. The static logic circuits are arranged on modular, plug in, printed circuit boards, clearly identified by type. The circuit boards are mounted with functional grouping. In addition, a board identification number marks each rack slot. The backplane consists of printed conductors arranged in a busing structure so that each slot is universal and can accept any board type. The 1050 control uses the AXIS2 board for controlling two or more axis drives.

4.2 Equipment Cleaning

4.2.1 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.

4.3 Equipment Inspection

4.3.1 Equipment should be visually inspected for any defects prior to applying power. This inspection should include the following as a minimum:

4.3.1.1 Wires broken or cracked
4.3.1.2 Terminal strips / connectors broken or cracked
4.3.1.3 Loose wires
4.3.1.4 Components visually damaged
4.3.1.5 Capacitors leaking
4.3.1.6 Solder joints damaged or cold
4.3.1.7 Circuit board burned or de-laminated
4.3.1.8 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	GE 1050T/MC	CPU2 Model
1	GE Computer Access Panel	External Interface
1	Diagnostic Tape	Diagnostic Tape
1	Executive Tape	Executive Tape

6. TESTING PROCESS

6.1 Diagnostic Test

6.1.1 Remove existing board from control and insert BUT (Board Under Test).

6.1.2 Turn control ON and check CAP Panel, if FFFE does not register on panel with the Display Selector Switch in the "Prog Cntr" position, do not go any further, troubleshoot board.

6.1.3 Load diagnostic tape by holding in the "LOAD TAPE" button and pressing the "CONTROL ON" push button. Tape should begin to load.

6.1.4 When the first portion of the tape has finished loading the display should read "**CPU TEST COMPLETE".** Let test cycle for 1 hour.

6.1.5 Turn Off Control. Remove CPSI1 board and then Press Store Program and Control On at the same time, this runs the next test. When tape stops at Memory Test, run test for 1 hour.

6.1.6 Load third portion of the diagnostic tape, by toggling "Load Tape" switch. When tape finishes loading, it should rewind back to the beginning of tape. When displays reads "**TURN CONTROL OFF, THEN CONTROL ON"**. Turn off control. Turn control on and start the last part of the diagnostic program, let it cycle for 1 hour.

6.1.7 Load executive software tape. If tape loads OK turn off control.

6.2 ***TEST COMPLETE ***

7. NOTES

7.1

8. REFERENCES

Location	Checksum	Chip Type NS	Size	GE Number
E15		74288	32 X 8	601015
C15		74S188	32 X 8	601017
D15		74S188	32 X 8	601016
M13		74S387	256 X 4	997112
M12		74S387	256 X 4	997111
N13		74S387	256 X 4	997110
N12		74S387	256 X 4	997109