g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GEF-IC481**

Test Procedure for IC481 and IC483 Printed Circuit Board for a 1050HL Control

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DATE	**DATE**	**DATE**	**DATE**
08/18/2011			8/19/2011

Functional test procedure for 1050HL IC481 44A294502-G01 and IC483 44A294598-G01 Printed Circuit Board

1. SCOPE

1.1 The instructions apply to all IC481 and IC483 boards in test.

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-25306 1050HLX Blue Book Manual
3.1.2 GEK-25343C Board Diagrams for 1050HL boards.
3.1.3 44CC704621 IC481 Elementary
3.1.4 44C704621 IC483 Elementary

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.

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 site specific SRA's 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

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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 1050HL # H188725	Control
1	DC Power Supply	DC Voltage to set input
1	IC 3PL Input Tester	Input test terminals

6. TESTING

6.1 Purpose

6.1.1 To test the external inputs into the 1050HL Control.

6.2 Testing Process

6.3 Diagnostic Procedure

6.4 Diagnostic Test

6.4.1 Remove the test IC481 or IC483 board from slot 4 and insert the board to be tested.

6.4.2 Special Mode Switch should be on (UP).

6.4.3 Press "ON".

6.4.4 "00" or "20" should appear in the message display and "?" in the alphanumeric display.

6.4.5 Press "P4", "1", and "ENTER". This instructs the control to read from the resident diagnostics boards.

6.4.6 A "T" will appear in the alpha display. Press "R", "ENTER" this instructs the control to run all of the software diagnostics.

6.4.7 Observe message display for error codes

6.4.8 If there is no errors proceed. Depress "DELETE BLOCK"

6.4.9 Press "P3"

6.4.10 At line 00 reads "0050054" the MSD is loaded. If not load the MSD note press up arrow to increment to next line down arrow to decrement to previous line. Key in Data then "enter" then up arrow to next line.

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6.4.11 MSD

LINE NO.	DATA
00	00500054
01	02000000
02	20202020
03	20202020
04	06060808
05	99991500
06	00000000
07	00000000
08	15001500
09	15001500

6.4.12 TURN Control OFF

6.4.13 Place Special Mode (down)

6.4.14 To Test **IC481** Set Power Supply output to -12VDC connect the + cable to + side of C1 on IC481 board. (The -12V probe cable will be used to test the IC input into 3PL Test terminal).

6.4.15 To test IC483 set Power Supply output to +24VDC connect the – (Com) cable to - side of C1 on IC483 board. (The +24V probe cable will be used to test the IC input into 3PL Test terminal).

6.4.16 For both boards Start at Address 620 testing all inputs to address 677.

6.4.17 **TURN ON CONTROL**

6.4.18 Go to TOOL OFFSETS Press up arrow key in “X” 00.00 “ENTER, “Z” 00.00

6.4.19 **TESTING IC381**

6.4.20 **Go to Interface**

6.4.21 At Display it will be 000.0 Type in 620, display will read 620.0, touch the -12V probe to 3PL Test TP1.1 which is input 620, display will change from 620.0 to 620.1 and LED should come on.

6.4.22 Depress Up-arrow to increment address to 621.0 touching -12V probe to TB1.2. Display will changed to 621.1

6.4.23 Continual, test all 48 IC inputs TB1.1 620 to TB3.11 677

6.4.24 If all 48 IC input passed (changing last digit from 0 to 1) go to

6.4.25 **TESTING IC483**

6.4.26 **Go to Interface**

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6.4.27 At Display it will be 000.0 Type in 620, display will read 620.0, touch the +24V probe to 3PL Test TP1.1 which is input 620, display will change from 620.0 to 620.1

6.4.28 Depress Up-arrow to increment address to 621.0 touching +24V probe to TB1.2. Display will changed to 621.1

6.4.29 Continual, test all 48 IC inputs TB1.1 620 to TB3.11 677

6.4.30 If all 48 IC input passed (changing last digit from 0 to 1)

6.4.31 **TURN OFF CONTROL and remove the Board.**

6.5 ***TEST COMPLETE***

7. Notes & Attachments

7.1 None at this time.

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