GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-DS200TCEAG1B**

Test procedure for a DS200TCEAG1B card

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release of the combine ATE test and Mark V functional test	C. Wade	1/14/2014
B	Added burn-in time in section 6.4	C. Wade	3/28/2014

PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
C. Wade			Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
1/14/2014			1/14/2104

Functional test procedure for a DS200TCEAG1B card.

1. SCOPE

1.1 This is a functional test procedure for a DS200TCEAG1B 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 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	H033779	ATE1
1	H033878	DS200TCEA Fixture
1	#34	Personality Module
1	H190117	Mark V Test Panel
1	H190115	HMI Computer for Mark V Turbine

6. TESTING PROCESS

6.1 ATE Setup

6.1.1 As required by ATE instructions

6.2 ATE Testing Procedure

6.2.1 Identify the test to be used on the ATE by matching the model number with the ones on the system and follow the instructions given after execution.

6.2.2 Unit should pass all steps of the ATE test before moving on to the functional test panel.

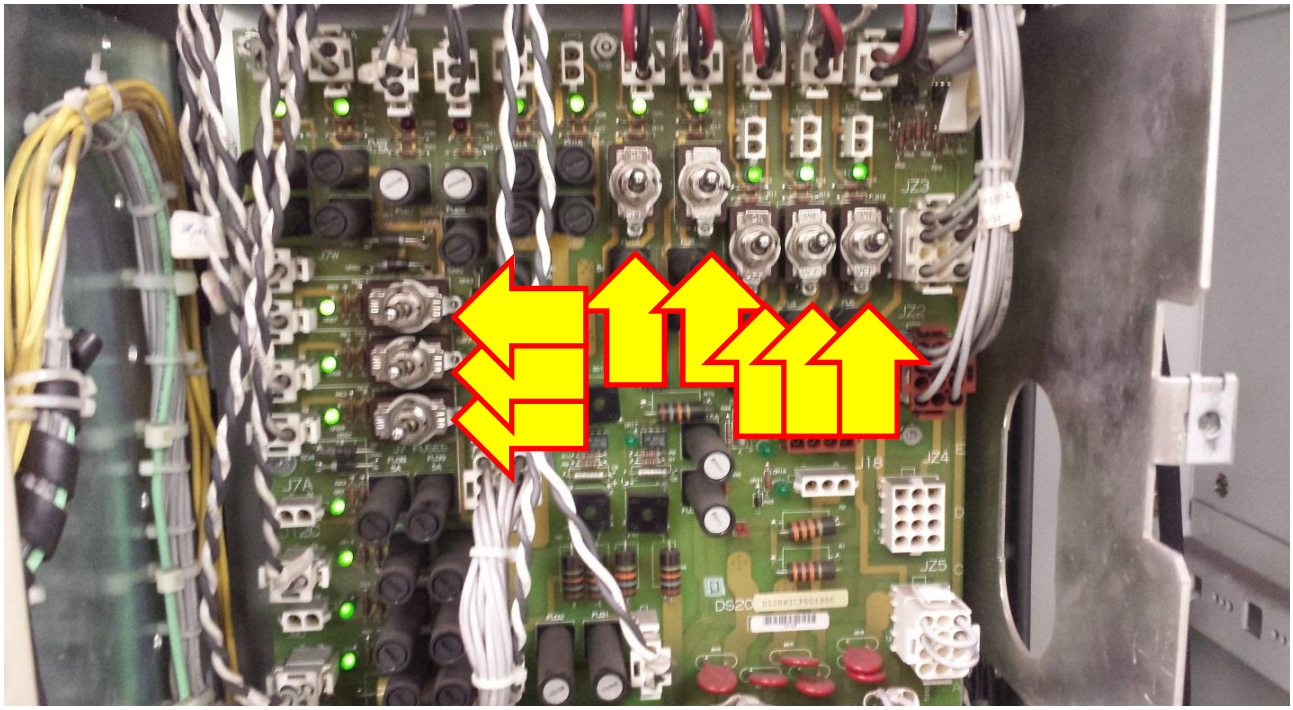
6.2.3 ATE Test Complete

6.3 Mark V functional Test Panel

6.3.1 Removal of existing TCEA card.

6.3.1.1 Installing the replacement DS200TCEA into Mark V Turbine System

6.3.1.2 Remove Power to Respective Core:



6.3.1.3 Before attempting to remove the TCEA verify that the power has been removed from the related core in the panel via the TCPD. (If it is a dead PS this may have been overlooked and power to core MAY STILL BE PRESENT!)

6.3.1.4 Locate the P Core power switch on the TCPD and turn off power to the P core

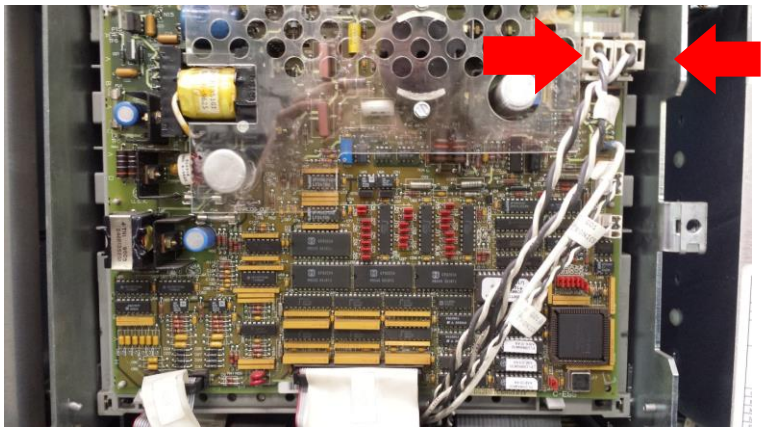
6.3.1.5 Open the P Core front door and pull the two tabs at lower right and left to unlock the plastic frames holding the boards within.

6.3.1.6 For each of the front board slots (Locations 1, 3, 5) perform the following steps to replace the original X, Y, and Z DS200TCEA protection boards.

6.3.1.7 After verifying the POWER has been removed via the TCPD.

6.3.1.8 Remove the POWER INPUT Connectors to the TCEA FIRST! Top right hand corner

(Indicated by the RED ARROW's above)



6.3.1.9 Disconnect remaining: Connectors, Chassis Ground and Ribbon Cables.

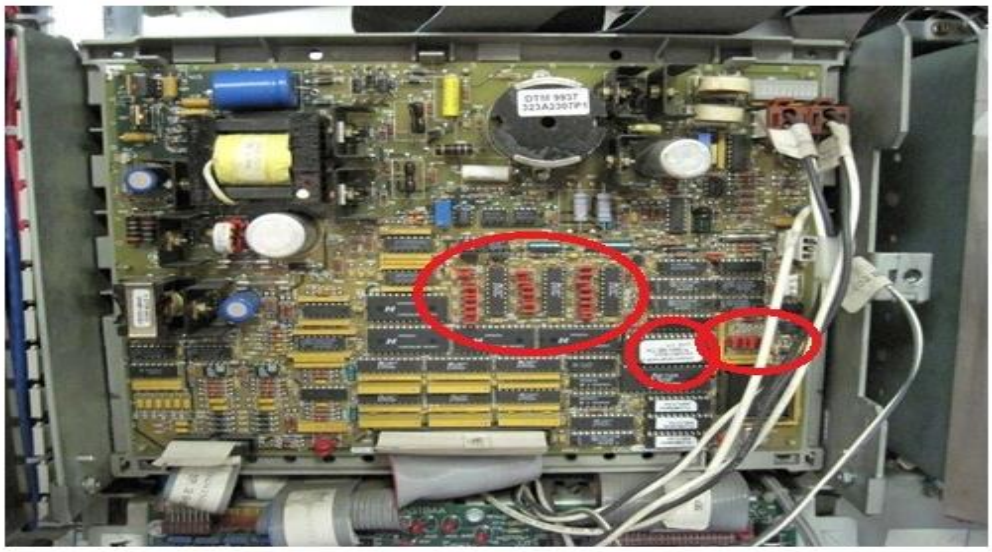
6.3.1.10 Remove the TCEA by releasing the retaining clips on the card tray, 6 total, 3 located on the physical top of the card and 3 on the bottom.

6.3.1.11 Disconnect and remove all the ribbon cables, power cables, etc.

6.3.1.12 Remove the TCEA board from the plastic frame, releasing the plastic tabs along the top and bottom of the board frame.

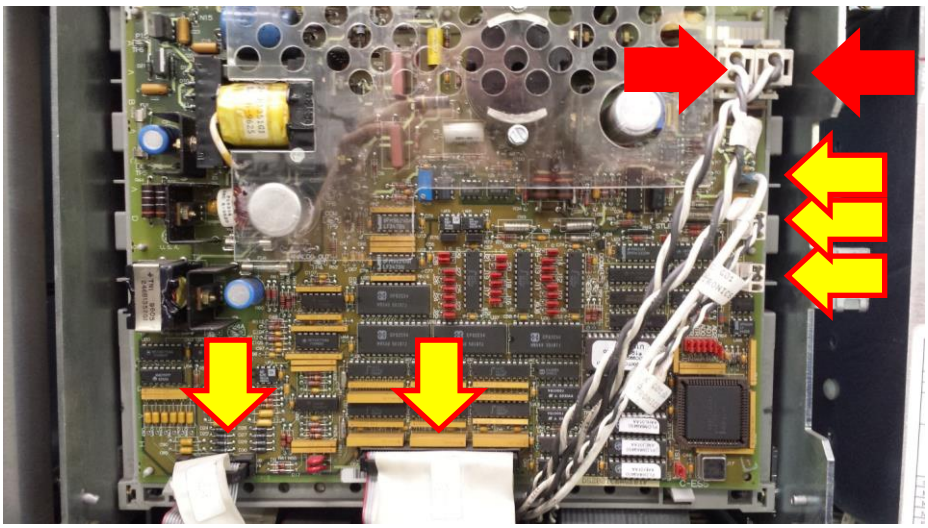
6.3.1.13 Remove the EEPROM on original TCEA board and install it on the revitalized board.

6.3.1.14 Set ALL jumpers to match the ORIGINAL… DO NOT CHANGE THE ORIGINAL BOARDS JUMPERS



6.3.2 Installation and testing of replacement TCEA card.

6.3.2.1 Re-install the board in panel



6.3.2.2 Install the TCEA by securing it with the retaining clips on the card tray, 6 total, 3 located on the physical top of the card and 3 on the physical bottom.

6.3.2.3 Make sure that the CHASSIS GROUND WIRE is NOT behind the TCEA! (between the TCEA and the card tray)

6.3.2.4 Connect the POWER INPUT Connector to the TCEA LAST! (Indicated by the RED ARROW above)

6.3.2.5 Connect remaining: Connectors, Chassis Ground and Ribbon Cable.

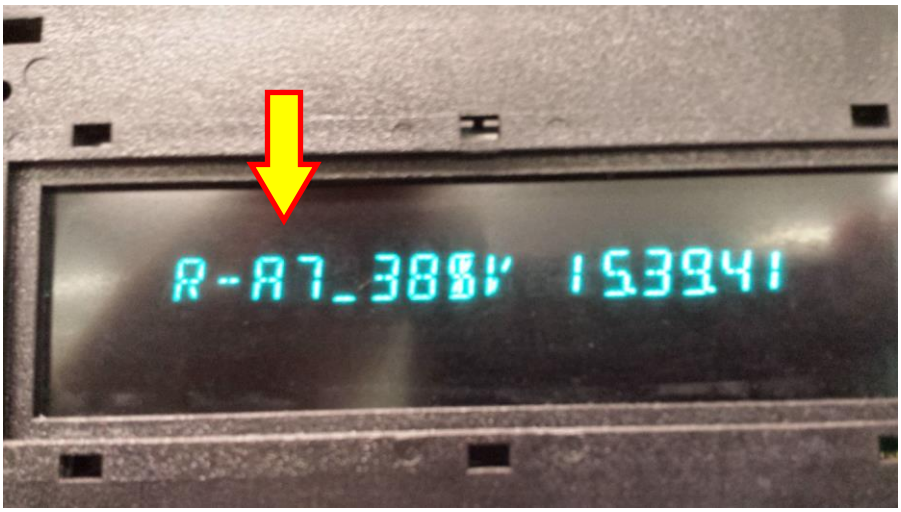
6.3.2.6 Keep in mind of the total connectors disconnected, some cores may have different amount of connectors. (ex. D Core)

6.3.2.7 Connect the POWER INPUT Connector to the TCEA.

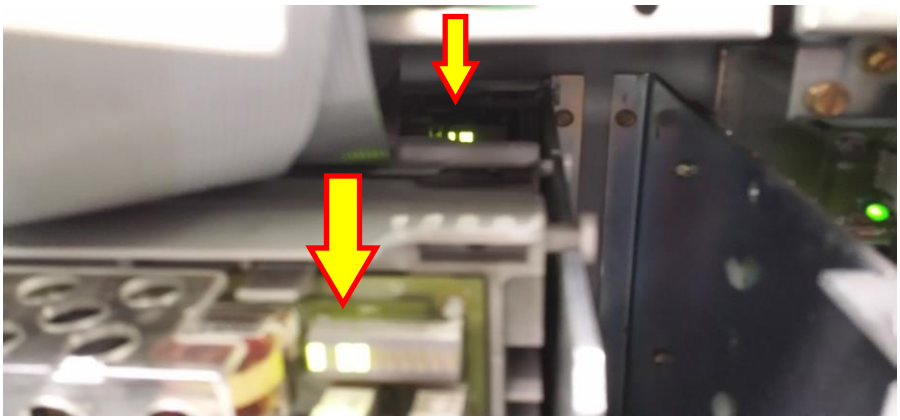
6.3.2.8 Recheck ALL connectors to verify none are misaligned (off one pin), partially connected or orientated 180 degrees of what it should be.

6.3.2.9 Restore power to core via the TCPD

6.3.2.10 Verify that the core boots and condition is A7 is present via the SLCC display.



6.3.2.11 Verify TCEA board is still synchronized with the others in the panel by the BAR GRAPH LEDS match with all 3 TCEA's. This is important to verify.



6.3.2.12 Typically the board should be burn-in/synchronized for a minimum of three hours.

6.3.2.13 .If unit is still running and synchronized as described previously, testing is complete.

6.3.2.14 Follow the proper steps to remove power properly before removing card.

6.4 Burn-in Time.

6.4.1 Burn-in time for Mark V cards normal repair

6.4.2 DS200TCEA 1 hour minimum in Mark V rack

6.4.3 Burn-in time for Mark V cards Revitalization Program

6.4.4 DS200TCEA 3 hours minimum in Mark V rack

6.5 ***TEST COMPLETE for DS200TCEA card***

7. NOTES

7.1 Changes to the electronic ATE test are recorded in the Software Control Database