

“Notes to My Successor”

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Slight revision by Sichta 7-22-2008

(1) Scope & Deliverables (what was to be produced)

From Sichta/Tchilinguirian

Products/Deliverables:

1. PTP for thermocouples and heaters.
 - a. Type-E MS-style thermocouple to 25 pin serial-D adaptor cable
 - b. MS- round connector to 25 pin serial-D connector adaptor cable
 - c. Heat gun attachment
 - d. Heater test box design and parts list
 - e. Testing data for thermocouples and heaters.
 - f. List of repaired leads
 - g. List of leads still needing repair
2. PTP for Flux Loops.
 - a. Magnetic test device (J. E. Lawson)
 - b. Breakout test box (L. Guttadora)
3. Rogowski Coil testing
4. Voltage Loop testing

(2) Status (what was completed)

Some data sheets are in paper form, in Tchilinguirian's WBS5 NCSX 'paper' folder.
Files being maintained by WBS5 Manager, Computer Division.

Heater Testing -

VVSA1

- ⊗ All testing finished except for heater temperature testing (no power applied).

VVSA2.

- ⊗ Heater box J3 has been tested (fault was found).
- ⊗ Heater box J4 has been wiggle tested.

VVSA3

- ⊗ Wiggle testing has been completed for both J5 and J6

Thermocouple Testing –

VVSA1.

- ⊗ Testing has been complete for each TC and connector.
VVSA2.
- ⊗ Testing has been complete for each TC and connector.
VVSA3.
- ⊗ All connectors and TC's have been checked except for junction TC-J3-3.
- ⊗ Pin to pin testing has been completed for TC-J3-3

Flux Loop Testing - PTP was completed pending review of involved parties.
Magnetic field test device has been completed.

Rogowski Coil testing - Rough version of PTP document exists.

Voltage Loop testing - None.

(3)Graphics or Photos – Included in .zip file:

DSC01301.JPG Breakout Box. Full view
 DSC01304.JPG Breakout Box internal
 DSC01308.JPG Repaired/Spliced Thermocouple Leads
 DSC01309.JPG Type-E Thermocouple Connector – Port 12
 DSC01311.JPG Heater Tape attachment to Vacuum Vessel
 DSC01324.JPG Heater Connector -Port 12. Thermocouple braid particles found
 DSC01365.JPG Heat-gun with standoff for thermocouple testing
 DSC01368.JPG Heater Tape performance testing. Cart handle used as heat sink.
 DSC01411.JPG Damaged VVSA2 Type-E Thermocouple connector. (Repaired)
 DSC01415.JPG Flux Loop Test Device External
 DSC01417.JPG Flux Loop Test Device Internal
 DSC01419.JPG Damaged Heater lead junction Box Location
 DSC01420.JPG Damaged heater lead overview
 DSC01421.JPG Damaged heater lead at pass through
 DSC01423.JPG Damaged heater lead – damage location (at securing clip)

(4) Remaining scope -

Heater Testing -

- VVSA1
 - ⊗ Heater temperature testing (no power applied) for J1 and J2.
- VVSA2.
 - ⊗ Heater box J3 must be repaired and retested.
 - ⊗ Heater box J4 resistance testing has not been completed.

- ⊗ Temperature testing has not been completed (no power applied) for J3 or J4.

VVSA3

- ⊗ Resistance testing for J5 and J6.
- ⊗ Temperature testing has not been completed (no power applied) for J5 or J6.

Thermocouple Testing –

- ⊗ VVSA3 needs to have Junction TC-J3-3 tested.

Flux Loop Testing

- ⊗ No testing has been conducted.

Rogowski Coil testing

- ⊗ No testing has been conducted.

Voltage Loop testing

- ⊗ No PTP document has been created, no testing has been conducted.

(5) Open issues or concerns

Heaters:

- ⊗ Heater Leads run too close to heater tape. There is a possibility that the leads will become damaged over time due to excessive heat exposure.
- ⊗ Heater lead relieving is not tension free on VVSA2 J4. The potential exists for insulation damage where the clips secure the leads to the vessel.

(6) List of documentation –

PTP's for VV instrumentation testing were distributed for review but were never collected. PTP numbers were assigned by ops center.

(7)Intellectual Property:

NONE

(8)Best Practices / Lessons Learned

NONE