

## Hall A - SoLID Magnet Control Systems – Meeting Minutes

**Date:** February 26, 2020

**Time:** 10:00 – 11:00

*Attendees:* Aaron Brown, Peter Bonneau, Brian Eng, Pablo Campero, Steven Lassiter, Tyler Lemon, Marc McMullen, and Whit Seay

### 1. *Constant Current Source (CCS) board design and assembly*

- 1.1. Revision of PCB Altium design completed
- 1.2. PCB files were sent by Marc McMullen to Advanced Circuits Company
  - 1.2.1. Once PCB and components get to the JLab, the population/ assembly of the board will be done by DSG.

### 2. *PLC programming status*

- 2.1. Pablo Campero Added PLC code to read two temperature sensors for the Heat Exchanger
  - 2.1.1. Resistance vs temperature curves for PT-100s sensors will follow standard R vs T relationship of any RTD
- 2.2. In preparation for the addition of the Cryo Control Reservoir's (CCR) instrumentation control and monitoring
  - 2.2.1. Pablo Campero generated new PLC routine to add all temperature sensors
  - 2.2.2. Confirmed that resistance vs temperature curve for diode and PT-100 sensors follow standard curves, not special curve required
- 2.3. Modifications on SoLID Solenoid PLC layout
  - 2.3.1. Added signals, which will require requires new PLC I/O modules.
  - 2.3.2. Steven Lassiter will make the arrangements to setup a new PLC remote chassis with the required I/O modules

### 3. *HMI programming status*

- 3.1. Implemented requested modifications for *Radiation Screen and Coil Shell Temperature, Neck Temperatures, and Axial and Radial Supports* HMI screens
  - 3.1.1. Background color changes added
  - 3.1.2. Error indicators
- 3.2. Trend for individual signals and groups is in progress
  - 3.2.1. Defined trend-group required for current lead temperature sensors
  - 3.2.2. Define trend groups for voltage tap signals
  - 3.2.3. Whit Seay will look into the grouping required for the axial/radial forces trends
- 3.3. Pablo Campero developed *Axial and Radial Supports – Expert* HMI screen
  - 3.3.1. Modification and addition features requested as follow:
    - 3.3.1.1. Remove inputs for “ramp up/down limits” and convert those to “slow dump thresholds” inputs
    - 3.3.1.2. Add color indicators to the enable and disable buttons
    - 3.3.1.3. “Imbalance forces thresholds” inputs during cooldown will be implemented later to the screen
- 3.4. Development of *CCR instrumentation* HMI screen in progress

#### 4. Instrumentation status

- 4.1. Decided new location to move the instrumentation rack
  - 4.1.1. New location: Test Lab building, left side of the magnet, where the Lapping machine is located.
  - 4.1.2. Power and network connections are available
  - 4.1.3. Waiting for Lapping machine to be exsessed to have the spot available
- 4.2. Heat Exchanger instrumentation
  - 4.2.1. Steven Lassiter mentioned that *convectron* vacuum gauge will be read by local controller, no need to add to the PLC controller
- 4.3. SoLID Solenoid CCR vacuum gauge specs will have the same specs as the one used in the Hall C-SHMS

#### 5. Electrical drawings status— DSG

- 5.1. *Hall A-SoLID Solenoid Temperature Sensors Wire Diagram* drawing is in progress
  - 5.1.1. Drawing shows connection from Rh/Fe sensors to the Signal Conditioners
  - 5.1.2. Drawing has extended to six sheets due to the amount of sensors
  - 5.1.3. Agreed modification for the drawing