Hall A - SoLID Magnet Control Systems – Meeting Minutes

Date: January 15, 2020
Time: 10:00 – 11:00

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

1. *Constant Current Source* (CCS) board design and assembly
    - 1.1. Marc McMullen completed PCB routing for CCS, design done in Altium
        - 1.1.1. Improvements of routing and components' location were discussed and agreed
        - 1.1.2. Parts and components to populate the CCS boards ordered
    - 1.2. Steven Lassiter mentioned that only 24 VDC voltage source will be used for CCS boards
    - 1.3. CCS boards will be use specifically for Rh/Fe resistive temperature sensors

2. PLC programming
    - 2.1. SoLID magnet PLC logic to control JT valves will be based on the HMS PLC routines
        - 2.1.1. PID control over the JT valves is required for cool-down operations
    - 2.2. Whit Seay will contact DSG when axial load cells and radial controller are available
    - 2.3. Status of the PLC routine for the Rh/Fe temperature sensors readout
        - 2.3.1. PLC routine has the calibration tables for the sensors
        - 2.3.2. Noted that temperature sensor's names in the instrumentation spreadsheet are different from PLC tag names used in the PLC routine
    - 2.4. Magnet power supply remote crate has not been defined
        - 2.4.1. Specification for remote crate and PLC programing will be on hold
    - 2.5. To measure magnetic field a hall probe or a NMR unit could be use, not defined yet
        - 2.5.1. PLC programing to read magnetic field will have both options
        - 2.5.2. Potentially a gauss-meter *Cryomagnetics, GM-700* series will be utilized

3. HMI programming
    - 3.1. *Radiation Screen and Coil Shell Temperature* HMI screen is in progress
        - 3.1.1. Pablo Campero will add temperature average, max, and min parameters to the screen.
        - 3.1.2. Whit Seay agreed with the preliminary design of the HMI screen
    - 3.2. NX 12 isometric view to show temperature sensors located at the magnet "Neck" in progress

4. Instrumentation status
    - 4.1. Allocated racks have standard dimensions 19''x78"
        - 4.1.1. Plan to move racks from room TED 1544, so these can be more accessible
    - 4.2. Steven Lassiter provided to DSG a copy of the *SHMS Controls and Instrumentation* manual to be used as a reference
    - 4.3. Steven Lassiter will share the service tower P&I diagram with DSG group
        - 4.3.1. The vendor to build the SoLID magnet service tower has not been defined yet, currently, there are two designs under consideration
    - 4.4. Information about standalone heater exchanger controller will be provided by Steven Lassiter