SoLID Magnet Controls System Meeting Minutes

Date: May 19, 2021
Time: 11:00 – 12:00

Attendees: *Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, George Jacobs, Tyler Lemon, and Marc McMullen*

1. Reviewed markups for drawings

Mary Ann Antonioli and Pablo Campero

1. A00000-16-03-0210 *Magnet Temperature Sensors Wiring Diagram*
    - Changed terminal strip group name from MAG-TS-01 to MAG-TS-02 and from MAG-TS-02 to MAG-TS-03 so that terminal strip group names will match PLC terminal strip numbers
    - Combined multiple cables into single cable to connect terminal strip to CCS boards and to connect terminal strip to signal conditioning modules
    - Added notes on cables that appear on multiple sheets
    - Changed labels for vacuum feedthroughs
    - Added terminal strips to wire two- and three-wire temperature sensors
2. A00000-16-03-0400 *Magnet Temperature Sensors Cable Diagram*
    - Changed terminal strip group name from MAG-TS-01 to MAG-TS-02 and from MAG-TS-02 to MAG-TS-03 so that terminal strip group names will match PLC terminal strip numbers
    - Added cable length
    - Added terminal strips to wire two- and three-wire temperature sensors

2. Electrical drawings completed

Mary Ann Antonioli and Pablo Campero

1. A00000-16-03-0401 *Voltage Tap Cable Diagram*
    - Added cable and connector specifications
2. A000000-16-03-0252 *Quench Detector Wiring Diagram*
    - Removed external transformer
    - Combined three cables into one cable to connect quench detector unit's outputs channels with PLC input module
    - Added note indicating why transformer is not required if the PSU is connected to the quench detector
3. To match colors on selected cable, changed colors for cables shown in drawings
    - A000000-16-03-0212 *PT-102 Temperature Sensors Wiring Diagram*
    - A00000-16-03-0213 *Diode Temperature Sensors Wiring Diagram*

3. **Electrical drawings in progress**
Mary Ann Antonioli and Pablo Campero
    1. A00000-16-03-0402 *2045 JT Valve Controls Cable Diagram*
        - Need to confirm connectors at the valve end for the LVDTs
        - Need to confirm connectors at the valve end for the motor drivers
        - How many LVC-2500 signal (LVDT Signal Conditioners) do we have in hand?
            - LVC-2500 was discontinued in May 2017
            - Recommended replacement is the LVC-4000 model; need to define model to be shown in drawing
        - Will add description of cable once it is selected
        - Will check that actual selected cable colors match cable colors shown in drawing
    2. A00000-16-03-0406 *PT-102 and Diode Temperature Sensors Cable Diagram*
        - Added description of selected cable for CCR temperature sensors
        - Changed cable colors to match selected cable for CCR temperature sensors
        - Need to add specifications for current leads temperature sensors cable once it is selected. Cable connects socket connector with terminal strip
        - Need to add specifications for heat exchanger temperature sensors cable once it is selected. Cable will connect 10-pin vacuum feed thru connector with terminal strip

4. **Cables and connector research**
Pablo Campero, Brian Eng, and Marc McMullen
    1. 85-ft long *Voltage Tap* cable was ordered
        - Intention was to order 100 ft, but only 85 ft was available; should be sufficient based on original requirement
    2. Ordered multi-conductor cables required for temperature sensors located in the CCR
    3. Researching cables required to connect JTV motors, LVDTs, and current lead temperature sensors with terminal strips
        - For Hall C controls, same cable was used to connect the above-mentioned instrumentation. If SoLID also uses same cable for above-mentioned instrumentation, then all cables will be dependent on the required voltage and current ratings needed for the JTV motor driver
            - Cable count: nine for LVDTs (includes HX JTVs), nine for the motor driver, and two for the current leads temperature sensors; each will be 100’
        - Need to determine voltage and current ratings for cables
        - Need to confirm JTV motor driver and LVDT connector specifications
        - Do we have JTV motor driver and LVDT connectors in hand? If not, DSG could be order them

5. **Tested Motor Controller Board relays; no issues found**
Mindy Leffel, and Marc McMullen