

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

**Date:** January 29, 2020

**Time:** 10:00 – 10:40

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

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

- 1.1. CCS board is under revision by Peter Bonneau and Marc McMullen

### 2. *PLC programming status*

- 2.1. Status of axial load cell sensors
  - 2.1.1. Not accessible yet, man power to move crate that contains these load cells is not available.
  - 2.1.2. Whit Seay provided specifications for load cells sensors
  - 2.1.3. Axial load cell readouts will not be required for the first powering up of the magnet
- 2.2. Temperature sensors readout routine status
  - 2.2.1. Changing I/O PLC module configurations to improve temperature readout resolution
    - 2.2.1.1. Based on temperature sensors resistance values, current supplied, and signal conditional gain; the readout voltage will be within 0 to 3 V range
    - 2.2.1.2. Currently, 1756-IF16 module has operational range set at 0-10 V, if this is change to 0-5 V, it will increase the resolution by factor of two
  - 2.2.2. Noted that PLC routine has different temperature sensors names from the I&C spreadsheet provided (i.e. PLC code: TS1\_He Vs I&C spreadsheet provided: TS1)
    - 2.2.2.1. Decided to use names showing more information, as long as these names do not affect visibility on HMI screens being developed
  - 2.2.3. Agreed that PLC tag names to be used, must be consisted between documentation, PLC code and HMI/data logging

### 3. *HMI screen development status*

- 3.1. Pablo Campero completed *Radiation Screen and Coil Shell Temperature* HMI screen
  - 3.1.1. First version developed satisfy the expectations, however, screen will be subject to changes if its required
- 3.2. Developing *Neck Temperatures* HMI screen
  - 3.2.1. Presented a NX-12 isometric view generated with the approximation of the temperature sensors locations
  - 3.2.2. Based on available documentation (i.e. oxford drawings), a precise location for the temperature sensor will not be possible

### 4. *Instrumentation status*

- 4.1. Steven Lassiter sent P&I diagram for the SoLID magnet service tower
  - 4.1.1. P&I diagram was required by DSG to project instrumentation and controls required
- 4.2. Steven Lassiter sent information about the heat exchangers (Known as N2 Exchanger)
  - 4.2.1. PLC will control/monitor two temperature sensors and one JT valve on heat exchanger
  - 4.2.2. Drawing showing heat exchanger pinout is available to DSG

## 5. Other topics

5.1. DSG had issues to launch RSLinx Classic on PHYCAD-58 computer

5.1.1. To fix the issues and be able to connect with the PLC, it is required to open RSLinx Control Panel application, which demands administrator permission to be open.

5.1.2. Whit Seay will look into administrative permissions for DSG on PHYCAD-58 computer