DSG-SoLID R&D Meeting Minutes

Date: December 16, 2022
Time: 11:00–12:00

Attendees: Peter Bonneau, Pablo Campero, Mindy Leffel, and Tyler Lemon

1. ### PLC and EPICS data transfer
   Pablo Campero and Steven Lassiter
   1. Program to control JT valve 3 was modified; added PID controls
   2. PLC tags created in program scope for valves V1, V5, V7, EVB8 and JT_HX_GHe
      - PLC tags in program scope need to be aliased to PLC tags in controller scope to enable the control in EPICS
      - Ether IP driver configured by cryogenic group only controls and monitors PLC tags in controller scope
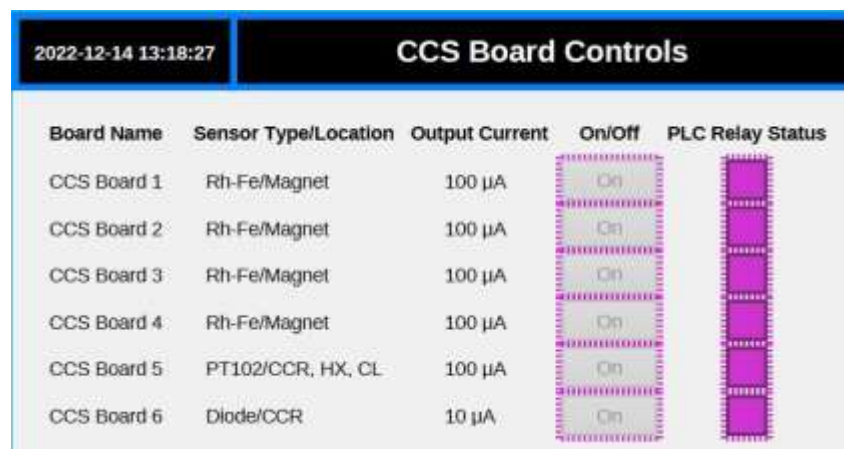
2. ### HMI screens
   Pablo Campero
   1. Modified *CCR Expert* screen
      - Added helium and liquid nitrogen average temperature signals to data archiver system
      - Added trends for helium and liquid nitrogen temperature average
      - Changed font for helium and liquid nitrogen temperature indicators
   2. Developed *Solenoid Outer Shield Temperatures Trend* screen
      - Shows trends for five temperature sensors located at the solenoid outer shield
      - Access is available from the *Solenoid Coil & Radiation Shield Temp* screen
   3. Working on modifications to *Menu Screen*
      - Changed layout and location of buttons
      - Adding new navigation options

3. ### CSS-Phoebus screens
   Mary Ann Antoniol and Pablo Campero
   1. Completed modifications to *Radial and Axial Supports – Expert* screen
   2. Completed *CCS Boards Controls* screen

Fig. 1. *Constant Current Source Board Controls* Phoebus screen

   3. Updated spreadsheet with proposed PVs for each screen

4. PLC alarm handler

1. Set up alarm and event server on FactoryTalk View studio
   - Server runs on PHYCAD58 computer
   - Added Boolean and real PLC data type testing signals
2. Created a testing HMI screen for different types of alarms
   - Implemented alarm summary features
   - Added acknowledgment option to clear alarms
   - Testing conditions and severity for alarms

Fig. 2. Testing screen for FactoryTalk View alarm and events screen

5. Modifications done for cable from resistor box to rack
Pablo Campero, Mindy Leffel, and Marc McMullen

1. Replaced male pins with female pins on cable connector to mate with resistor box connector
2. Recommend changing pins on resistor box connector

6. Cooldown monitoring
DSG

1. Cooldown started on 12/14/2022 and will be stopped for Lab's shutdown period
   - Testing will be restored in January 2023
2. Monitored vacuum, which was ~6.15e-3 Torr on 12/16/2022
3. Monitored contamination (0.05 ppm)