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. <u>CSS-Phoebus screens</u>

Mary Ann Antoniol and Pablo Campero

- 1. Completed modifications to *Radial and Axial Supports Expert* screen
- 2. Completed CCS Boards Controls screen

2022-12-14 13:1	8:27	CCS Board Controls			
Board Name	Sensor Type/Location	Output Current	On/Off	PLC Relay Status	
CCS Board 1	Rh-Fe/Magnet	100 µA	On		
CCS Board 2	Rh-Fe/Magnet	100 µA	On		
CCS Board 3	Rh-Fe/Magnet	100 µA	On		
CCS Board 4	Rh-Fe/Magnet	100 µA	(00)		
CCS Board 5	PT102/CCR, HX, CL	100 µA	On		
CCS Board 6	Diode/CCR	10 µA	On		

Fig. 1. Constant Current Source Board Controls Phoebus screen

3. Updated spreadsheet with proposed PVs for each screen

4. <u>PLC alarm handler</u>

- 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

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

5. <u>Modifications done for cable from resistor box to rack</u>

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

- 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)