

DSG-SoLID PLC Programming Meeting Minutes

Date: November 11, 2020

Time: 10:30 – 12:00

Attendees: Peter Bonneau, Pablo Campero, Brian Eng, George Jacobs, Steven Lassiter, Tyler Lemon, Marc McMullen, and Whit Seay

1. Reviewed PLC I/O module faults (Steve Lassiter)

- 1.1. RS-Logix5000 software showed communication faults due to uninstalled ADC modules (hardware) in PLC chassis
 - 1.1.1. Installed two ADC PLC modules in the Remote B PLC chassis
 - 1.1.2. Cleared communication faults in RS-Logix5000 software
- 1.2. Checked cable and power connections of the Flex I/O module
 - 1.2.1. Flex I/O module is properly installed, but communication error is still shown in RS-Logix5000 software; Pablo Campero will investigate

2. Reviewed and modified *Cleo* routine

- 2.1. Sheets 4–9: Enhanced Select (ESEL) Instructions, which are used to select maximum, minimum, and average values for temperature and load sensors, need to be modified to remove readout values of bad sensors
 - 2.1.1. Steven Lassiter ran a test of the ESEL function and it worked successfully
 - 2.1.2. Pablo Campero will make the required changes in the PLC code
- 2.2. Sheet 14: Helium and nitrogen pressure sensor readout and fault detection
 - 2.2.1. Removed OR condition since it was redundant to show faults in the ADC PLC channel
 - 2.2.2. Verified channel properties used for signal readout (0–10 V)
- 2.3. Sheet 15: Checked relay channels assignment to turn on heaters that will be installed at the warm ends of the current lead
- 2.4. Sheet 16–20: Valve position readout
 - 2.4.1. Changed valve timeout PLC tag value from 3000 s to 30 s
 - 2.4.2. Ensured that all LVDTs are assigned to the correct PLC module and channel
 - 2.4.3. Reviewed code used to monitor faults in the LVDTs; no changes made
- 2.5. Sheet 22: Changed PLC Element name from He_Temp_LT_5 to He_Temp_LT_6
- 2.6. Sheet 24: Changed comments for helium warm up start temperatures
- 2.7. Sheet 25: Pablo Campero noted that the PLC tag used to monitor the LN₂ maximum temperature in the Solenoid shields is incorrect

3. Reviewed *Rd_Fe_Temps* routine (Pablo Campero)

- 3.1. Added comments to show name and location for five temperature sensors
- 3.2. Added comments to remember to make required changes of the coefficient for the $T = f(R)$ curves; correct coefficients will be added later

4. Miscellaneous

4.1. Changes will be made to *Radial and Axial Supports – Expert* HMI screen based on the changes that will be done in CLEO routine

4.1.1. Screen will display faulty load sensor readouts

4.1.2. Buttons that enable or disable sensor readout will be removed from screen since faulty sensor readout will be removed automatically from the maximum, minimum, and average calculations done by the PLC ESEL instruction.