

DSG-SoLID PLC Programming Meeting Minutes

Date: November 4, 2020

Time: 10:30 – 12:00

Attendees: Pablo Campero, Brian Eng, Steven Lassier, and Whit Seay

1. Solved PLC program minor faults and I/O module faults

- 1.1. Cleared old minor faults for all issues related to CLEO PLC programs
 - 1.1.1.Example: The value for a PLC tag was invalid
- 1.2. Disabled “schedule connection over ControlNet” option to clear all I/O module faults
- 1.3. I/O module faults for flex bus modules remain; Steve Lassiter will check cable connections for the flex bus module

2. Reviewed and modified Cleo routine

- 2.1. Sheet 2: Verified PLC ADC channels assigned for each diode and PT-100 temperature sensors
 - 2.1.1.Steven Lassiter noted that there is a temporary tag that is used for testing code; tag will be removed once testing is done
- 2.2. Sheet 4: Enabled and corrected Enhanced Select (ESEL) Instructions, which are used to select maximum, minimum, and average values for 18 helium temperature sensors
- 2.3. Sheet 5: Enabled and corrected ESEL Instruction used to select maximum, minimum, and average for 12 LN₂ temperature sensors
- 2.4. Sheet 7 and 8: Enabled and corrected ESEL Instruction used to check maximum and minimum radial load sensors readouts
- 2.5. Sheet 11: Modified PLC tag names used for the Constant Current Source 24 VDC enabling and disabling option. Also, agreed to move PLC code to reset CPU of the PSU
- 2.6. Sheet 12: Changed channel fault bit assigned for *Current Loop* voltage tap
- 2.7. Sheet 13: Added comments for vacuum units
- 2.8. Agreed to research ESEL option to enable and disable some load sensor readouts in case they are faulty or have any error
 - 2.8.1. Option would be useful to disable faulty load sensor values from the selection of maximum and minimum values used in the interlock logic

3. Reviewed Rd_Fe_Temps routine

- 3.1. Reviewed $T = f(R)$ and noticed that five sensors do not have the correct coefficient for the curves; correct coefficients will be added later

4. Reviewed Cleo_Forces routine

- 4.1. Coefficients for $F = f(R)$ for all load sensors need to be modified