

DSG-SoLID PLC Programming Meeting Minutes

Date: December 16, 2020

Time: 10:30 – 12:00

Attendees: Aaron Brown, Peter Bonneau, Pablo Campero, Steven Lassiter, Tyler Lemon, Marc McMullen, and Whit Seay

1. Debugged 1794-ACN15 Flex I/O adapter module faults (Steven Lassiter)

- 1.1. Replaced BNC cable connected to the module, but communication issues still persist
- 1.2. Steven Lassiter will contact Allen Bradley technical support for further debugging

2. Reviewed and modified *Cleo* routine

- 2.1. Sheets 37 and 38: Heat exchanger JT valve set control
 - 2.1.1. Pablo Campero removed unnecessary PLC instructions used for the HMS code to control JT valves in the heat exchanger
- 2.2. Sheet 40: Mass flow controllers
 - 2.2.1. Pablo Campero added code to control the flow increment factor while the PSU is on or off
- 2.3. Sheet 47: Interlock quench detector software
 - 2.3.1. Changed PLC tag names for the voltage taps associated with coil 1, coil 2, current lead A, and current lead B
 - 2.3.2. Reviewed logic to set alarm when the difference between voltage tap for coil 1 and coil 2 is greater than the set limit
- 2.4. Sheet 48: Danfysik quench detector interlock
 - 2.4.1. Modified comments
 - 2.4.2. Verified that the associated quench detector channels are correct
- 2.5. Sheet 49: Liquid levels and temperature interlock
 - 2.5.1. Pablo Campero will add all temperature sensors located in the coils
 - 2.5.2. Pablo Campero will correct the temperature sensors in the code associated with the solenoid neck
 - 2.5.3. Agreed to break down sheet 49 into two, to separate liquid level interlocks and temperature sensors interlocks
- 2.6. Sheet 50: Current leads and neck flow interlocks
 - 2.6.1. Changed value of flow increment factor to test code
- 2.7. Sheet 51: Radial support interlocks
 - 2.7.1. Code needs to be reviewed after the code for the imbalance forces (radial force combinations) is implemented by Steven Lassiter
 - 2.7.2. Agreed that radial support should dump the PSU and stop the cooldown
- 2.8. Sheet 52: HMI fast and slow discharge interlock
 - 2.8.1. Verified that correct PLC tags are associated with HMI buttons
- 2.9. Sheet 55: Sum and reset interlock
 - 2.9.1. Pablo Campero will add code to generate slow discharge of the PSU if the PLC heartbeat stops working
 - 2.9.2. List of the interlocks to generate slow or fast discharge could be modified later based on the future requirements for the magnet