

## DSG-SoLID PLC Programming Meeting Minutes

**Date:** March 17, 2021

**Time:** 10:30 – 12:00

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

### 1. Reviewed modifications and pending work on CLEO routine

*All attendees*

1. Sheet 10: Radial Supports Downstream Warnings
  - Completed code to generate warning when radial supports located in the downstream side are out of limits
  - Modified “Load-Wrng” add-on instructions to accept negative limit values; used to generate warnings to the operator when the radial support load readout is out of limits
2. Sheet 11: Load Cell Axial Supports
  - Added code to generate warning when the axial support readouts are out of limits
    - Replaces code that was comparing axial load readout with single set limit. Now code compares readout with individual limit for each of the four axial supports
    - Used, created “Load-Wrng” add-on instruction
3. Sheet 52: Interlock: Neck He Temperatures (new sheet)
  - Added code to generate interlock based on the solenoid neck temperatures
    - Reviewed logic
  - Further changes required:
    - Remove code to dump magnet based on helium return temperature
    - Add PLC code (new sheet) to stop cooldown if difference of supply and return temperatures is out of set limits
4. Sheet 54: Interlock Radial Support US
  - Added code to individually compare each radial support located at the upstream side with a second limit; if the readout absolute value is greater than the set second limit, interlock will be enabled
  - Created “Load-Intlck” Add-On Instruction to simplify code in CLEO routine
  - Added code to reset overall upstream load interlock
  - Determined that interlock will generate a controlled dump
5. Sheet 55: Interlock Radial Support Downstream
  - Added code to individually compare each radial support located at downstream side with a second limit; if the readout absolute value is greater than the set second limit, an interlock will be enabled
  - Implemented “Load-Intlck” Add-On Instruction
  - Added code to reset overall downstream radial load interlock

- Further change required:
    - Add OR condition to check interlock status of overall radial downstream, overall radial upstream, or Axial supports
6. Sheet 56: Interlock Axial Support Upstream
- Implemented “Load-Intlck” Add-On Instruction for four axial supports
  - Code compares axial load sensors readouts with set limits, if readout out of second threshold limit
  - Added code to reset overall axial load interlock

## **2. Reviewed modifications to Radial and Axial Support Expert HMI screen**

*Pablo Campero*

1. Re-configured screen layout
2. Added PLC tags for axial supports
3. Added section to reset overall interlocks for upstream and downstream loads
4. Changes to be made
  - Change header title for third column from Fast Dump Threshold to Controlled Ramp Threshold
  - Change all numeric inputs used for warning interlock thresholds and controlled ramp down thresholds to indicators
  - Break down axial support warning limits and axial support interlock limits into two indicators (low and high)

## **3. Modified Radial and Axial Support HMI screen**

*Pablo Campero*

1. Added color code information to show meaning of the indicators' colors
2. Added “Intlck Disabled” text next to Radial\_Support\_A indicator
3. Removed Sensor Status box

## **4. Generating drawing A000000-16-03-0501 – Heat Exchanger Temperature Sensors**

*Pablo Campero*

4. Reviewed drawing issued by Ability Tech Engineering and drawing 67122-E-56823
5. Found that temperature sensors used are PT-102 not diodes