



Detector Support Group

We choose to do these things "not because they are easy, but because they are hard".

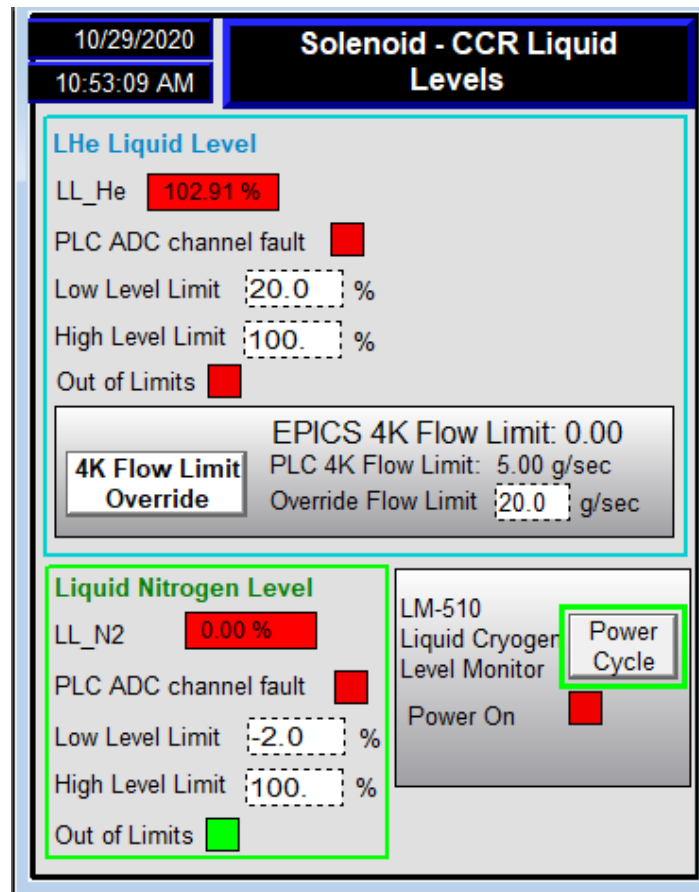
Weekly Report, 2020-10-28

Summary

Hall A – SoLID Magnet Controls

Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, Tyler Lemon, Marc McMullen

- Modified drawing A00000-16-03-0220: *LHe and LN₂ Sensors and Controller Wiring Diagram*
 - ★ Added liquid level sensor pinout labels
 - ★ Added connections to *Line Voltage Controller* module
- Developing *Solenoid JTV-Setup* and *Liquid Level Expert* HMI screens



Screenshot of Liquid Level Expert HMI screen

- Tested Motor Controller PCBs for continuity

Hall A – GEM Gas System

Peter Bonneau, Brian Eng, George Jacobs, Mindy Leffel, Tyler Lemon, Marc McMullen

- Installed EPICS base on Raspberry Pi
 - ★ Developed eight channel EPICS softIOC database record
 - ★ Modified sensor readback code to populate process variables with flow data
 - Ran readback code for 12 hours



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Hall B – SVT

Peter Bonneau, Mindy Leffel

- Started implementing the Hardware Interlock disconnect system design
 - ★ Disconnect system allows for the removal of cRIO crate without removing all the instrumentation cables

Hall C – NPS

Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Pablo Campero, George Jacobs, Mindy Leffel, Tyler Lemon

- Debugging Python plotting package for CAEN trip testing data analysis
 - ★ Modified code to add current limit threshold line to current and voltage plots for trip test data analysis
- Developed CAEN HV ramp test
 - ★ Revised test code to make the test shorter (~20 min. down from ~90 min.)
- One hundred and forty-four of 1080 PMT Settings screens developed
- Nine hundred and sixty of 1100 HV divider cables fabricated
- CAEN HV trip testing with CSS: 33 of 34 modules tested
- Researched hardware and software for implementing readout of the temperature sensor multiplexer crate (Keysight model 34980A) for the crystal zone
 - ★ Keysight model 34980A will be located in a radiation shielded area approximately 10 m from the detector frame
- Analyzing, with Excel, HV (with load) stability test current data
 - ★ 30 of 32 module's current data analyzed

HDice

Peter Bonneau, Tyler Lemon

- Modified fsNMR program to add user prompt to select impedance (50 Ω of 1 M Ω) for lock-in amplifier

DSG R&D – MSELV Chassis

Peter Bonneau, Tyler Lemon, Marc McMullen

- Generated system diagram of communication and signal paths

EIC

Brian Eng

- Continued working on Tracking Detectors' Costs (WBS 6.10.3)