Detector Support Group

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

Weekly Report, 2022-12-14

Hall A – CLEO Magnet

Aaron Brown, Brian Eng, Marc McMullen, Mindy Leffel

- Retested all eight mapping units after wifi password was updated

Hall A – ECAL

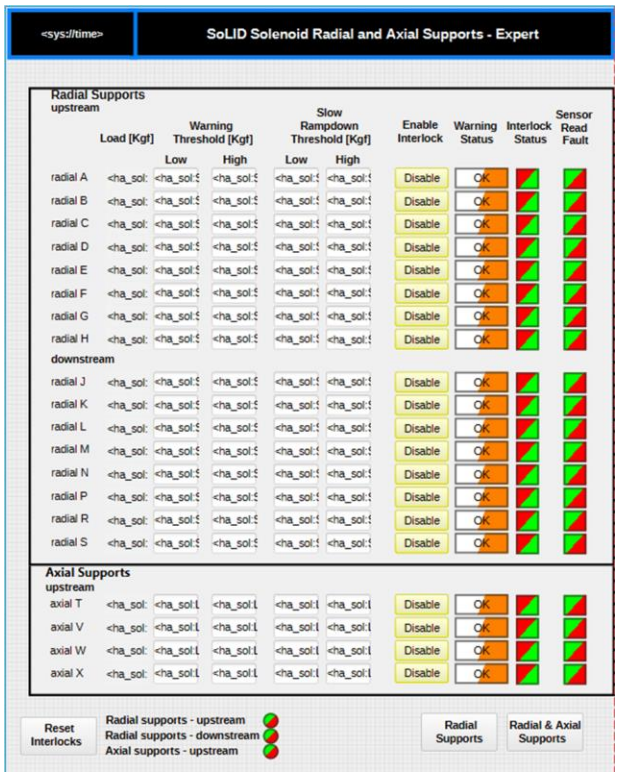
Marc McMullen

- Added datalogging to RTD data acquisition code

Hall A – SoLID

Mary Ann Antonioli, Pablo Campero, Mindy Leffel

- Added and Low and High limit entry boxes, Warning Status LEDs, and supports LEDs to Radial and Axial Support - Expert Phoebus screen; tested locally and debugged



- Updated drawing -0210, converted the 12 pages to pdfs, compiled, and reposted
- Soldered two 10' extensions to voltage tap cable
- Replaced male pins with female on CPC connector
- Added three EPICS process variables to the PLC program to monitor cryogenic conditions
- Monitored readback values and compared with EPICS values; no issues found
- Completed setup of the PHYCAD59 computer to run and access HMI screens
  - ✶ Installed and configured software and patches
  - ✶ Tested access to PHYCAD58 HMI server; no issues found
  - ✶ Can be accessed in local or remote mode

- Setting up CCONT02 laptop as client for PHYCAD58 and Skilla10 HMI servers
  - ✶ Installed FTView Side Edition Client package software; patch installation failed
  - ✶ Monitoring and controls HMI screens can be accessed, but not trends screens; debugging in progress
- Added descriptions of valve names to CCR Expert screen
- Added cryo EPICS process variables to HMI screens
  - ✶ Supply Pressure CPI2721 in the Upgraded Injector Test Facility
  - ✶ Contamination/Recovery Suction CCT20N
  - ✶ Bypass Valve Position CEV249BYUORBV
- Removed bad temperature sensors from *CCR Expert* and *Turret Temperatures* HMI screens
- Modified *Voltgae Taps* HMI screen
  - ✶ Added voltage tap signal readouts to data logger system
  - ✶ Added one decimal precision for all voltage tap readout indicators
- Monitored vacuum and contamination values on a daily bases

Hall C – NPS

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

- Removed number of points to average and standard deviation from Phoebus test screens
- Populated 3-ft RTD cables with female Molex connectors
- Debugged hardware interlock system's LabVIEW program for thermal readback
  - ✶ Addressed each comment from the latest round of Phoebus screen testing
- Tested thermal readback program using random numbers, as well as Keysight values
- Fabricated antenna probe to help locate noise source
  - ✶ Antenna cable is 1 m long with a 2 cm loop; terminates with an SMA connector, which is connected to the CAEN wideband amplifier

- Procuring backshells to make 50-pin, D-sub extension cables
  - ✶ Backshells on hand are missing thumbscrews needed to lock the cable to the manufacturer's cable on the detector side
- Procured 2-conductor, 20-awg cable to fabricate four, 4-m long, low voltage test cables

- Added records to EPICS IOC database to calculate absolute difference between voltage set and monitored readback and current set and monitored readback for detector's low voltage
- Testing low voltage IOC and CSS Phoebus screen

Hall D – JEF

Mindy Leffel

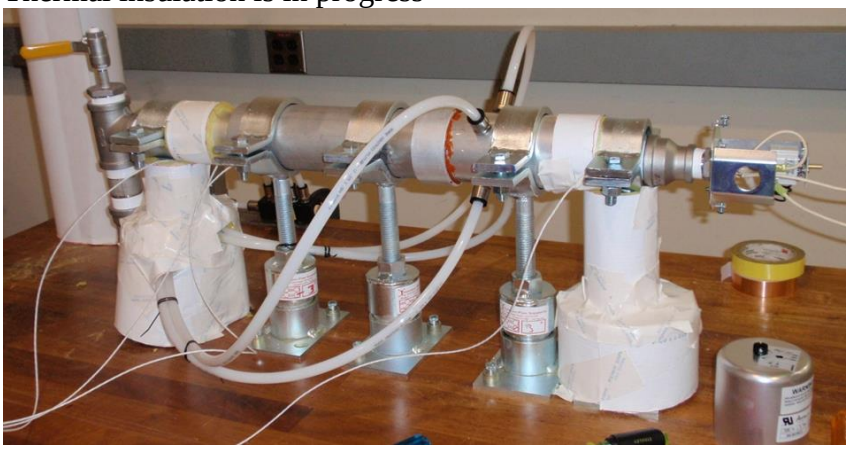
- Cut, stripped, and tinned 186 wires for the PMT bases
- Wrapped 24 Crytur crystals with 3M foil and Tedlar

EIC Test Stand

Pablo Campero, Brian Eng, George Jacobs, Marc McMullen

- Completed assembly airflow tests by flowing 250 lpm through the airflow tube, using the controls software

- Continued development of controls software
  - ✶ Coded temperature-controlled relay function that will shut down the heater if the temperature exceeds the setpoint
  - ✶ Coded datalogger to log all RTD temperatures, airflow setpoint, and airflow with a timestamp
- Thermal insulation is in progress



EIC-DIRC

Tyler Lemon

- Developed sweep function for interlock system circuit
  - ✶ Function requires user to press a button inside room, therefore viewing inside of room to ensure room is empty, before being able to enable the laser
  - ✶ Circuit uses a D-type latch circuit to allow sweep button press to register while there is a latched interlock status
  - ✶ Pressing the sweep button actuates a timed relay to maintain the sweep signal for a user-settable interval; timed relay can be set to stay on for ~0.05 seconds–100 hours
  - ✶ When reset button is pressed, latch clears, and D-type latch locks in value of sweep signal
  - ✶ If an interlock occurs, the D-type latch allows sweep signal to be set to zero, requiring user to sweep room and press button again before re-enabling system
- Continued revisions of the LOSP and training document and sent for comments before submission