Detector Support Group

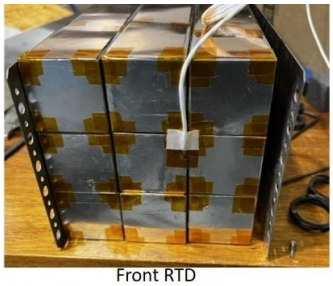
We choose to do these things "not because they are easy, but because they are hard".

Weekly Report, 2023-1-11

Hall A – ECAL

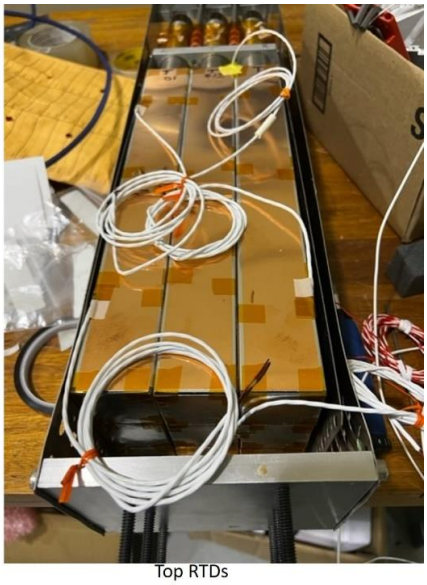
Marc McMullen

- Disassembled ECAL supermodule and added five RTDs (one on face of center crystal, three on top edges, and one on the back face)



Front RTD

Rear RTD



Top RTDs

- Continued writing software to control the Agilent N6700B, four-channel supply

Hall A – Møller

Mary Ann Antonioli, Aaron Brown, Brian Eng

- Submitted PR for evaluation setup with Siemens modules
- Retrieved Siemens documentation and drawings for PLC modules; will be used for electrical drawings

Hall A – SoLID

Mary Ann Antonioli, Pablo Campero, Mindy Leffel

- Modifying *Menu* and *Cooldown* HMI screens
- Developing FactoryTalk View alarm handler
- Created email server with hMailServer software
  - ✶ Ran *Testing Alarms* HMI screen on client computer to send emails to Jefferson Lab email; no issues found
- Debugged missing titles on Phoebus pop-up valve screens
  - ✶ Corrected macros, text, and process variable names; need to continually run a local process variable screen for titles to appear
- Updated spreadsheet of Phoebus process variables for new screens
- Began *Cooldown* Phoebus screen
  - ✶ Debugging rules for text indicators where text is missing if all process variables are zero

Hall B – Magnets

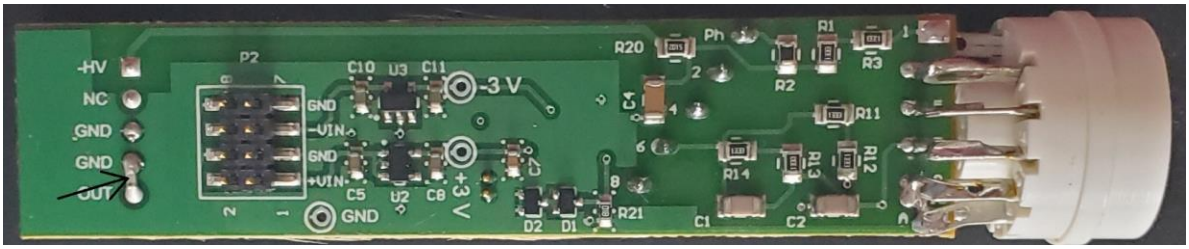
Brian Eng

- Added code to Solenoid PLC to prevent polarity changes when current readback is >10 A; waiting on control power to test functionality
- Located three spares for voltage tap isolation amplifiers; ordered two so that voltage taps can be added to new solenoid bus links
- Ordered cRIO to convert older MPS interlock signals into EPICS, replacing VME crate

Hall C – NPS

Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, Marc McMullen

- Debugging hardware interlock system's LabVIEW program for thermal readback
  - ✶ Adding auto-restart capability
  - ✶ Reducing wait times of chiller communication to speed up program execution; currently each section has a wait time of 500 ms for a total slowdown of 5 s for each chiller
  - ✶ Added cRIO heartbeat
  - ✶ Added cRIO system info
- Writing troubleshooting instructions to be posted to NPS controls wiki page
- Soldered to PMT bases, between ground and out, two hundred, 50 V, 500 pF capacitors



- Received backshells for the Keysight cables and tested to ensure proper fit
- For EPICS SoftIOC Server, set permanent environment variables needed for EPICS Base installation
  - ✶ Debugging issues to compile EPICS Base, as unable to run Perl script as part of the Make command action

Hall D – BCAL chiller

Brian Eng

- Using a PLC tag, manually selected from three new replacement DS BCAL chillers
  - ✶ Incorrectly assumed the PLC automatically detects a chiller change
  - ✶ Added new PLC code to GitHub

Hall D – JEF

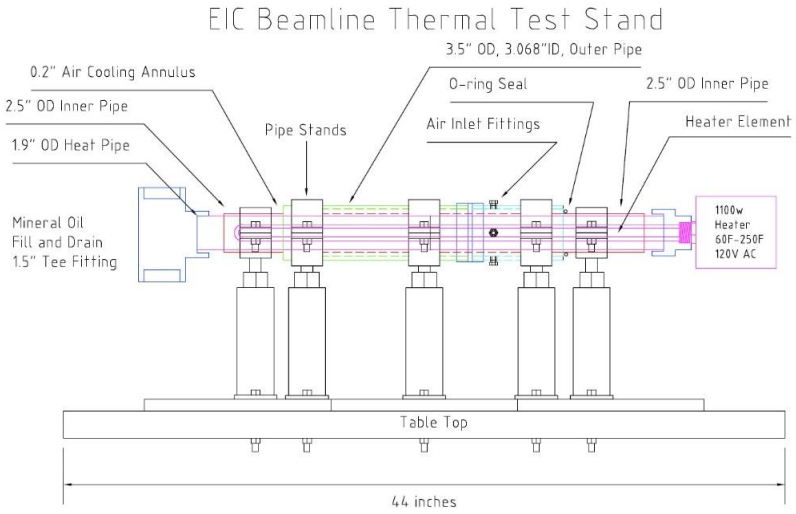
Mindy Leffel

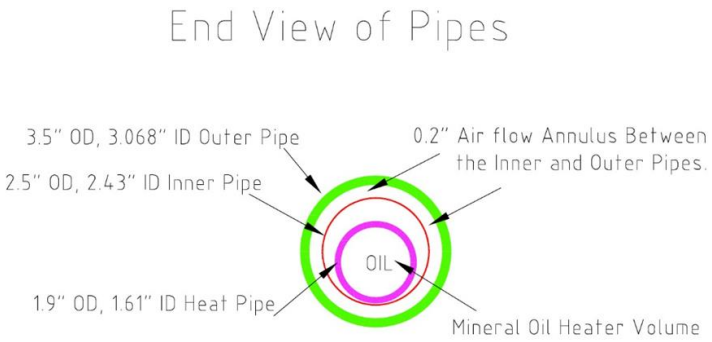
- Soldered wires to 24 PMT bases
- Wrapped five Crytur crystals with 3M foil and Tedlar

EIC

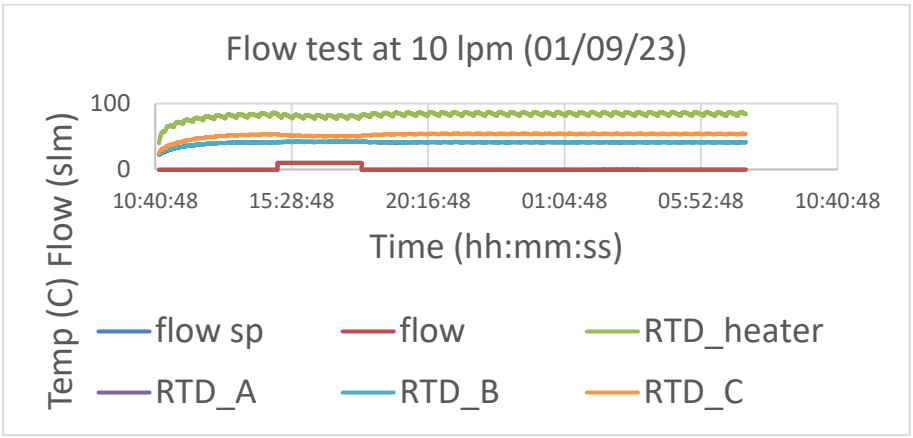
George Jacobs, Marc McMullen

- Completed assembly of thermal test stand





- Tested flow at 10 LPM and plotted data

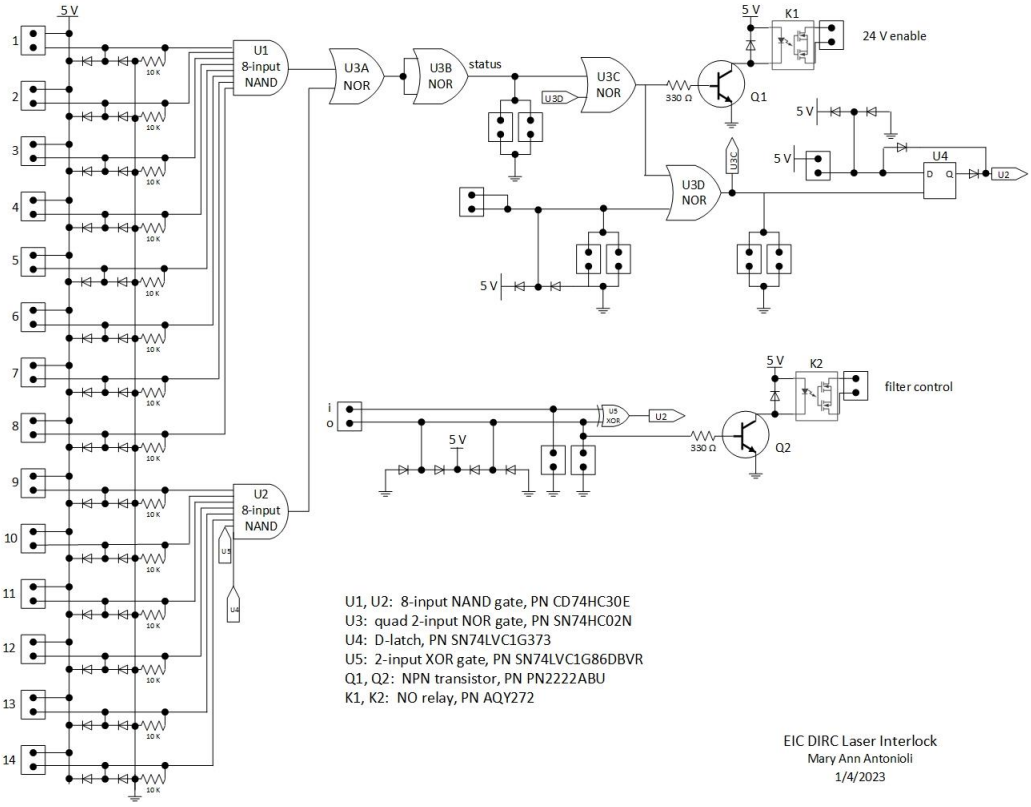


- Continued flow tests at 20 LPM and 50 LPM

EIC – DIRC

Mary Ann Antonioli, Tyler Lemon. Marc McMullen

- Developed circuitry for laser interlock system to install or remove low-power filter using a motorized mount
- Developed circuitry for laser interlock system to initialize circuit to latched state
  - ✶ Previously, set-reset latch in system would randomly initialize to either the all-clear or latched state
  - ✶ With new circuit developed, system will always power into latched state and require user to reset system before laser is enabled
- Developing circuitry for laser interlock system to power or de-energize magnetic locks based on system state
  - ✶ Circuit will allow user to toggle an exit button to leave laser area without triggering an interlock
- Reviewed comment from Laser Safety Officer and removed requirement for electrical safety training from the LOSP
- Drew laser interlock electrical schematic in Visio



DSG – Website

Peter Bonneau

- Reformatted pictures of staff working on projects and added to the spotlight photo archive
- Completed conversion of photolog database to latest jAlbum Pro version