Summary

Hall A – ECal

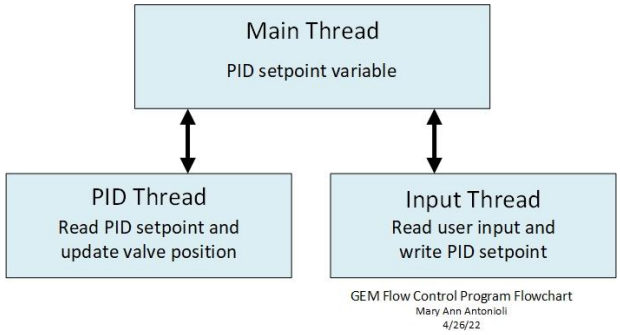
George Jacobs, Mindy Leffel, and Marc McMullen

- Assembled supermodules – 59 of 59 complete

Hall A – GEM

Mary Ann Antonioli, Brian Eng, George Jacobs, and Marc McMullen

- Generated Visio diagram of gas flow control program

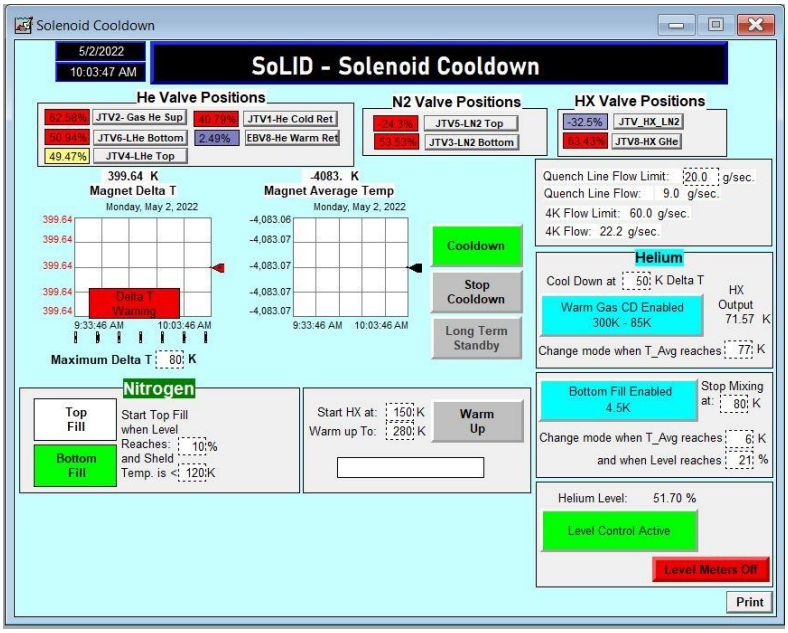


GEM gas flow control program flowchart

Hall A – SoLID

Pablo Campero, Mindy Leffel, and Marc McMullen

- Completed *Solenoid Cooldown* HMI screen



SoLID Solenoid Cooldown HMI screen

- Developing *SoLID Solenoid Cooldown* Phoebus screen

Hall B – RICH-II

Peter Bonneau, Pablo Campero, Brian Eng, George Jacobs, Tyler Lemon, and Marc McMullen

- Continued 3D printing of parts
- Investigated wavelength spectrum capability of new reflectivity test station
  - ✶ Modified program to use two integration times to be able to measure lower wavelengths
    - 575 μs for 200 – 500 nm wavelengths
    - 125 μs for 450 – 1000 nm wavelengths
- Completed Aerogel dry-tent assembly – added fire retardant plastic and tape, installed magnetic self-sealing door flaps

Hall C – NPS

Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, George Jacobs, Mindy Leffel, Tyler Lemon, and Marc McMullen

- Developing LabVIEW code for the hardware interlock system program
  - ✶ Generated subVI to compute and display dew point
  - ✶ Wrote code to generate an EPICS server and automatically create process variables using the shared network variables from the project's variable library
- Conducted Ansys steady-state thermal simulation for simplified model without cooling effects from heat exchangers
- Developing CFD thermal simulation using Ansys Fluent to include heat exchangers' heat removal effects
  - ✶ Modified model – changed heat exchanger blocks to four cylinders to represent the heat exchanger fans (two for the top and two for the bottom)
  - ✶ Added electronics volume space occupied by the PMTs, PMT bases, and dividers to the model
  - ✶ Using Ansys Design Modeler, combined volume occupied by PMTs and volume that encloses all electronics and cooling system
  - ✶ Imported model to Ansys Fluent; solving boundary conditions issues
- Back-potted four high voltage supply cable Radiall connectors – 19 of 40 complete
- Testing high voltage supply cables after back-potting their Radiall connectors – six of 40 complete

Hall D – JEF

Mary Ann Antonioli, Aaron Brown, George Jacobs, and Mindy Leffel

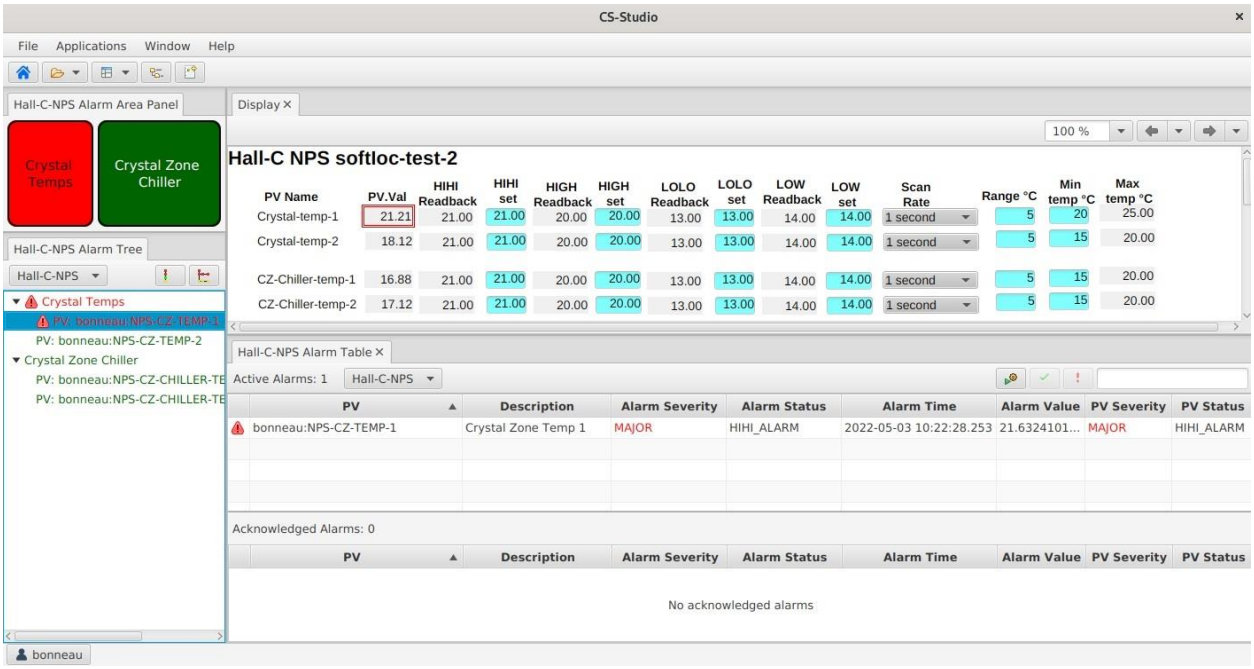
- ESR foil pre-shaping – 868 of 1600 complete
- Wrapped 25 crystals with ESR foil and Tedlar

DSG R&D – EPICS Alarm System

Peter Bonneau

- Completed debugging Phoebus code for startup of alarm system, Kafka message streams, process variable (PV) configuration, alarm system initialization, and alarm user interface

- Developing an Input/Output Controller (IOC) using EPICS base 3.14
  - ✶ Completed a four channel softIOC for the development and testing of the alarm system
  - ✶ Used Visual Database Configuration Tool (VisualDCT) for EPICS database development
  - ✶ Produces test PV signals via random number generators – range and offset are user adjustable
  - ✶ Allows setting of PV alarm limits for HIHI, HIGH, LOLO, and LOW
- Testing alarm system with PVs using a softIOC
- Developed an alarm system GUI consisting of an Alarm Area Panel, softIOC display & control, Alarm Tree, and an Alarm Table



Phoebus alarm user interface window; the test PV *Crystal-temp-1* has an active alarm generated by the test softIOC

- Developing Python script to automatically generate XML configuration files for PVs – script extracts PVs from EPICS Phoebus GUIs