Summary

Hall A – SoLID Magnet Controls

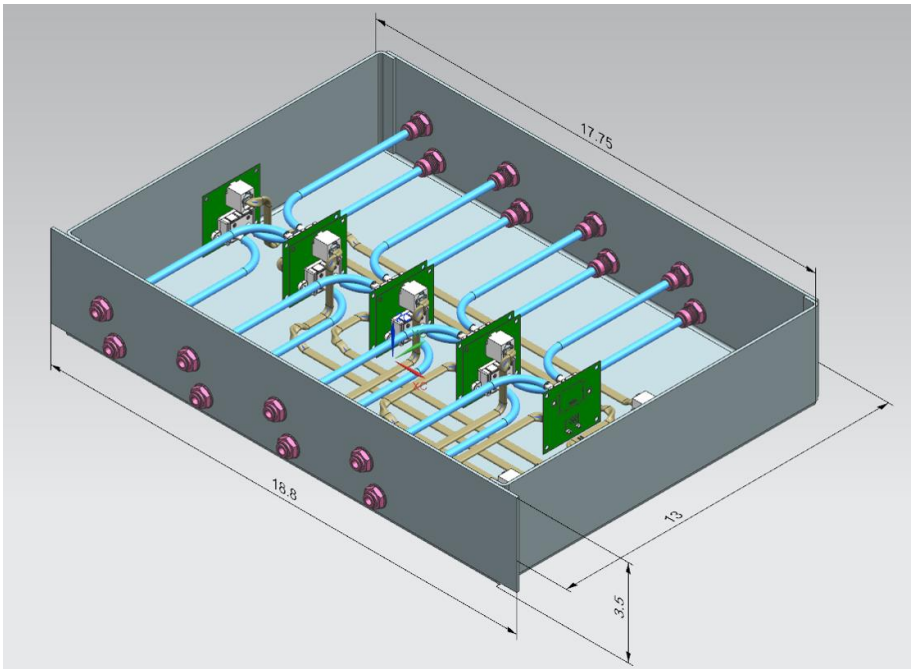
Mary Ann Antonioli, Aaron Brown, Pablo Campero, Brian Eng, Tyler Lemon, Marc McMullen

- Verified the PLC code for the LN_2 and LHe liquid level sensors
  - ✶ Channels in the PLC program match the physical channel assignment for each sensor
- Developing *PLC Rack Layout* drawing A00000-16-03-0150
  - ✶ Added 24 VDC and 5 VDC power supplies, breakers, and terminal strips
  - ✶ Added and grouped terminal blocks for all PLC I/O modules
- Developing *Instrumentation Rack Layout* drawing A00000-16-03-0200
  - ✶ Added terminal strip groups for all sensors and instrumentation from the magnet and cryo control reservoir
  - ✶ Added terminal strips for the heat exchanger instrumentation
- Completed wiring diagram for sheet named *"PLC I/O Remote 2, Slot 3 Wiring Diagram"* drawing A00000-16-03-2800
  - ✶ Drawing shows the wiring connection for the analog input PLC module used to monitor the position of the JT valves through the LVDTs
- Completed all design checks for the 24 channel motor controller board
  - ✶ Component pad dimensions and locations have been verified, as well as connections

Hall A – GEM Detector Gas System

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

- Populated five 400 sccm gas flow sensor boards (40 completed)
- Completed design of the I^2C multiplexer PCB; ready for manufacturing
- Continued development of gas flow sensor chassis using NX12
  - ✶ Chassis design was adjusted to force all Tygon tubing lengths to be ~6"
  - ✶ Multiplexer board changed to vertical orientation
  - ✶ Added flat telephone cable for multiplexer-flow sensor connections



Latest design of the gas flow sensor chassis for the GEM Detector Gas Distribution System.

HDice – fsNMR Program

Peter Bonneau, Tyler Lemon, Marc McMullen

- Developed a data review program
  - ✶ Used to review all cycles' data to exclude anomalous results from a cycle
  - ✶ Includes controls to select which cycles to include and average and then saves that result as a new averaged data file
- Debugged phase's averaged data plot color reverting to white instead of intended red color
  - ✶ Found that plot color was being changed by a feature previously added to the program that makes all plots blink in inverse colors to signify the end of a run
  - ✶ Removing this feature resolved the issue

Hall C - NPS

Peter Bonneau, Aaron Brown, George Jacobs, Mindy Leffel, Tyler Lemon

- Environmental Monitoring System
  - ✶ Researching resistive coolant leak sensors that can hold up under high radiation
  - ✶ Determined the need for chiller and HV interlocks to protect the detector
- High Voltage Distribution
  - ✶ Researching connectors and cables to be used in HV distribution system that are consistent with the planned detector operating voltage of ~1100 V
- CAEN Testing
  - ✶ Continued voltage stability testing (with load) using EPICS on CAEN crate and modules

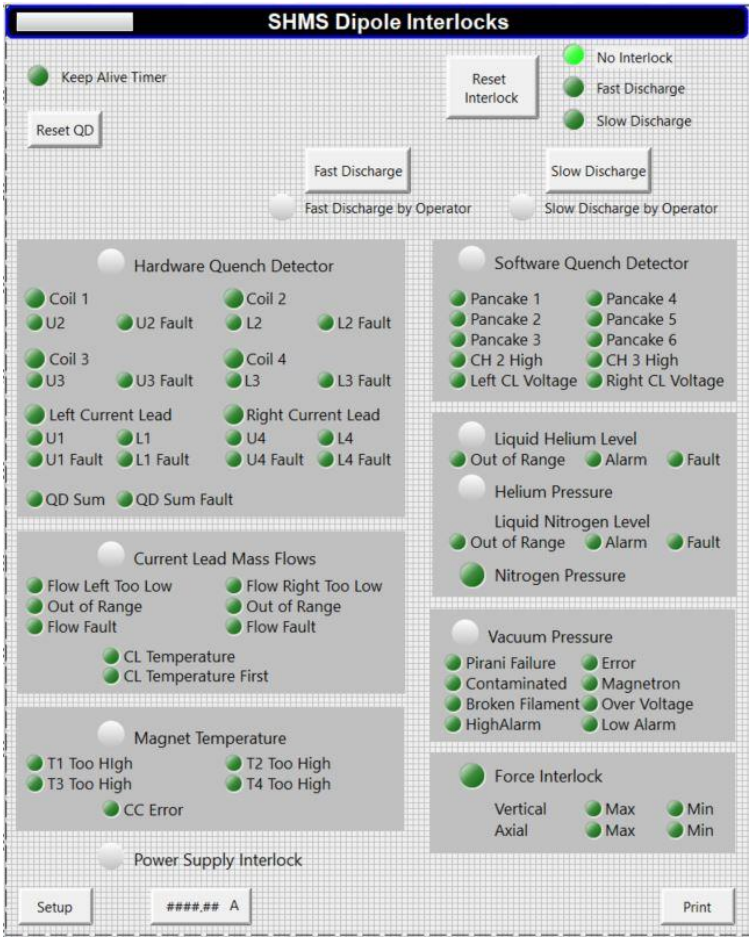
- ✶ Analyzing HV stability test (with load) current data for modules #0256 and #0262

- Five hundred and forty of 1100 high voltage divider cables fabricated
  - ✶ Cut 240 RG-174 cables

Hall C- HMS/SHMS Magnets CSS Screen Development

Mary Ann Antonioli, Aaron Brown, Pablo Campero, Brian Eng, Tyler Lemon

- Completed *SHMS Dipole Interlock* screen



Screenshot of the *SHMS Dipole Interlock* CSS-BOY screen.

EIC

Brian Eng

- Attended risk training provided by BNL along with meetings to update the risk registry

DSG – Website Design

Mary Ann Antonioli, Peter Bonneau, Aaron Brown

- Updating and standardizing all DSG Technical Documentation sections