



Detector Support Group

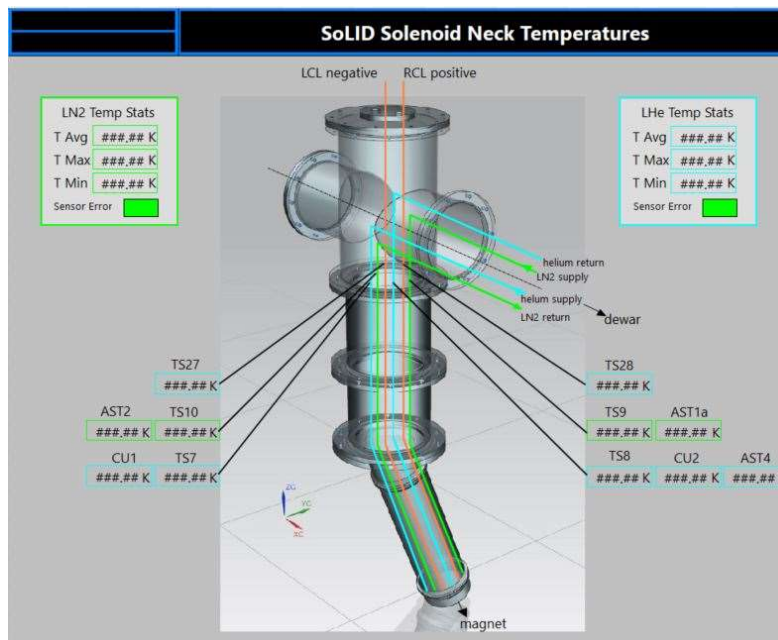
Weekly Report, 2020-05-13

Summary

Hall A – SoLID Magnet Controls

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

- Changed PLC module layout based on latest modifications to improve controls system
 - ★ Changed readout of all single-ended modules from integer to floating point
 - ★ Updated scaling on all temperature channels
 - ★ Added code for JTV7 based on JTV6
 - ★ Moved signals to new channels: vacuum, pressure, hall probe, and JT valves
 - ★ Changed naming of MFC signals: from R to Pos., and L to Neg.
- Developing PLC code to control JT valves for heat exchanger
- Wrote and uploaded four PLC subroutines
 - ★ PLC code to readout, check readout faults, and calculate average, max and minimum values:
 - Sixteen strain gauges radial supports sensors
 - Four load cells axial support sensors
 - ★ Verified the PLC's ADC module's channel assignment for each sensor
 - Engineering units need to be defined based on sensors' specs
- Modified Cryo Control Reservoir HMI screen
 - ★ Added indicators to the HMI screen to display pressure and cooldown rate PVs' values from EPICS.
 - ★ EPICS PV names for Hall A SoLID magnet need to be defined by Cryo group
- Updated database spreadsheet with PLC tags and proposed EPICS PVs for:
 - ★ Solenoid Radial Supports screen
 - ★ Solenoid Radial & Axial Support screen
- Completed SoLID Solenoid Neck Temperatures CSS-BOY screen
 - ★ Tested screens



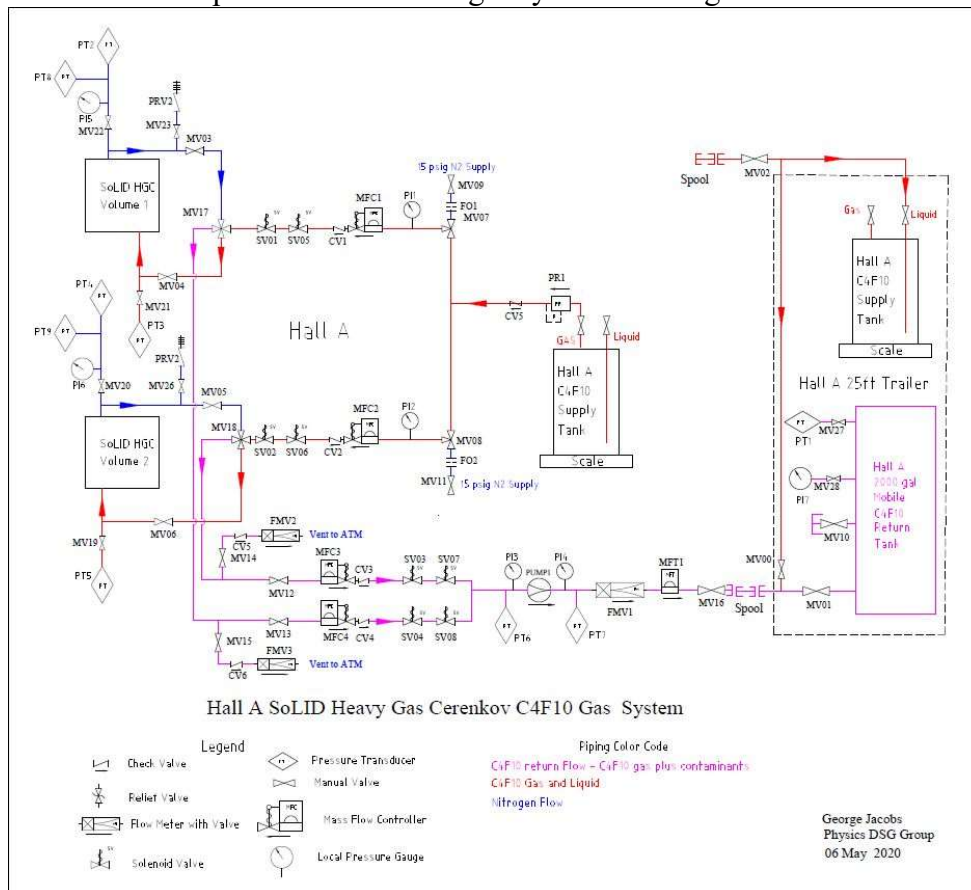
SoLID Solenoid Neck Temperatures CSS-BOY screen

- Modified Radial and Axial Support HMI screens
 - ★ Added readout errors indicators
 - ★ Added animation to show sensors fault or out of range value
- Completed SoLID Solenoid Radial Supports CSS-BOY screen
- Modified parts and schematic for the 24 channel Motor Controller board
 - ★ Started component placement on the PCB

Hall A – SoLID HGC

George Jacobs

- Modified and updated HallA/HGC gas system drawing

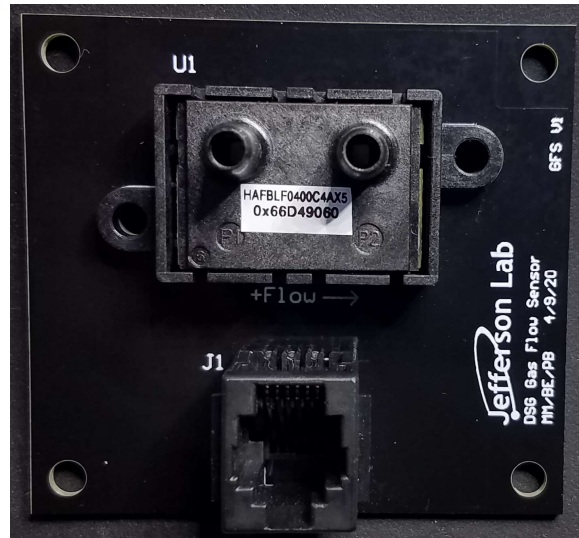


Hall A SoLID Heavy Gas Cerenkov C4F10 Gas System Diagram

Hall A – SBS GEM

Mindy Leffel, Marc McMullen

- Completed initial schematic for the 8 channel Gas Flow Sensor Multiplexer Board for the SBS/BB gas distribution system
- Populated Gas Flow Sensor Board



SBS GEM gas flow sensor board developed by DSG

Hall B – SVT Hardware Interlock System

Peter Bonneau

- Reviewed boot initialization subroutines for the interlock system
 - ★ Initialization is only run at power-up and establishes preliminary system settings including interlock trip thresholds
 - ★ Developing error checking routine to verify proper system initialization

HDice - fsNMR Program

Peter Bonneau, Tyler Lemon

- Corrected LabVIEW coding for normalization constant calculation.
- Developing procedure document for running Stage 1 and Stage 2 fsNMR program.

Hall C- CSS Screen Development

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

- Started layout for of HMS JT page screen
- Started HMS Dipole NMR screen

Hall C – CSS-BOY Screen Development for Checklist

Peter Bonneau, Tyler Lemon, Aaron Brown

- Developing a CSS-based system which will generate the checklist data needed for Hall C shift workers
 - ★ Generated a spreadsheet that details all of the PVs associated with the Hall C Shift Checklist
 - ★ Compiled documentation for program development from MIS checklist program, and completed an example for checklist.
 - ★ Compiled list of EDM screens used by Hall C for shift checklist.
 - List includes screen name, WEDM path (if it exists), and path to EDM file on “opsl00” server



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Hall C – NPS

Mindy Leffel

- For the HV diverter cable fabrication:
 - ★ Cut 200: RG-174 cables, jumper wires, and three types of heat shrink
 - ★ Continued making cables, so far completed 20 cables



NPS HV diverter cables

DSG R&D – MSELV Chassis

Tyler Lemon, Marc McMullen

- Submitted RMC document for group review
 - ★ The document covers technical design aspects of the MSELV RMC PCB