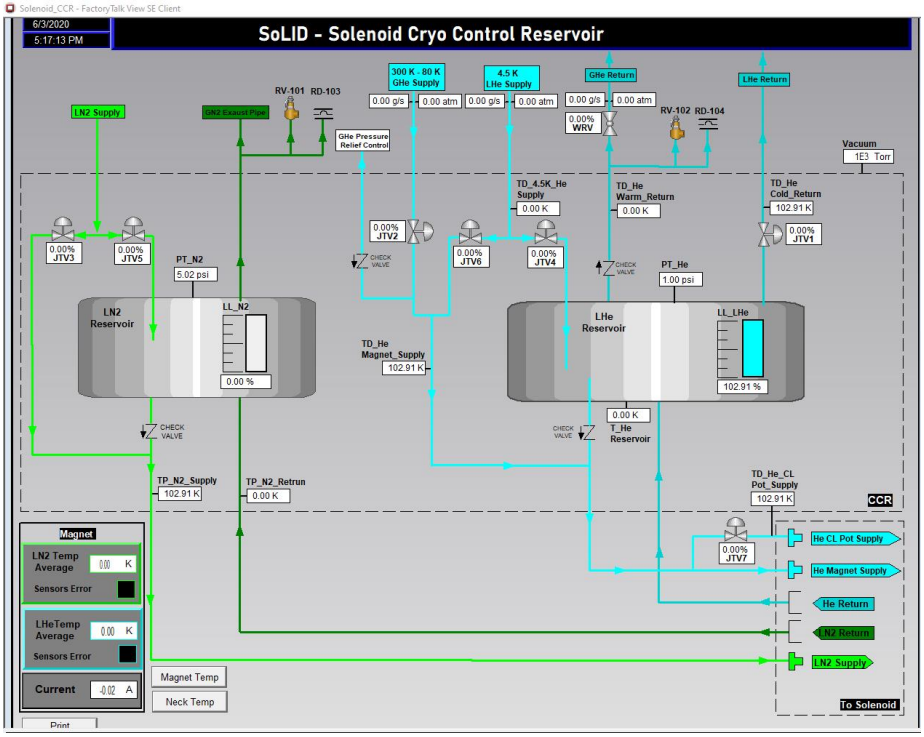
Detector Support Group
Weekly Report, 2020-06-03

Summary

Hall A – SoLID Magnet Controls

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

- Made changes to "Axial and Radial Supports – Expert" CSS screen
  - ✶ Converted all colored rectangles to LED widgets for status indicators
- Updated databasing spreadsheet with PLC tags and proposed EPICS PVs
- Worked on PLC logic for heat exchanger JT valves
  - ✶ Enabled two JT valves to control LN2 and He flows in the heat exchanger
  - ✶ Verified PLC channel assignment in ADC and relay PLC modules
  - ✶ Reviewed PLC code to read LVDTs and determine positions of the JT valves
  - ✶ Pointed out changes for PLC tags used for He JT valve control
  - ✶ Determined more information is required to setup PID control for JT valves
- Modified Cryo Control Reservoir screen
  - ✶ Added features for eight JT valves shown on the screen
    - ▪ Touch animation feature allows user to open a screen that controls and monitors a JT valve
    - ▪ Automatic and manual mode available for new pop-up screens
  - ✶ Added temperature sensor indicator to show supply He temperature to the current leads
  - ✶ Reviewed PLC tag for each indicator and valves in the screen
  - ✶ Added current indicator for power supply and navigation buttons for coil and for magnet temperatures screens



Second version of SoLID CCR HMI screen

- Fixed for all six HMI screens the “Print” buttons
  - ✶ Print buttons allow user to take screenshots and automatically save the actual values of each screen in pdf format

Hall A – SBS

Brian Eng, Marc McMullen

- Started layout of 8-channel multiplexer board

Hall A – SoLID HGC

George Jacobs

- Updated C4F10 Gas Displacement Diagram

HDice - fsNMR Program

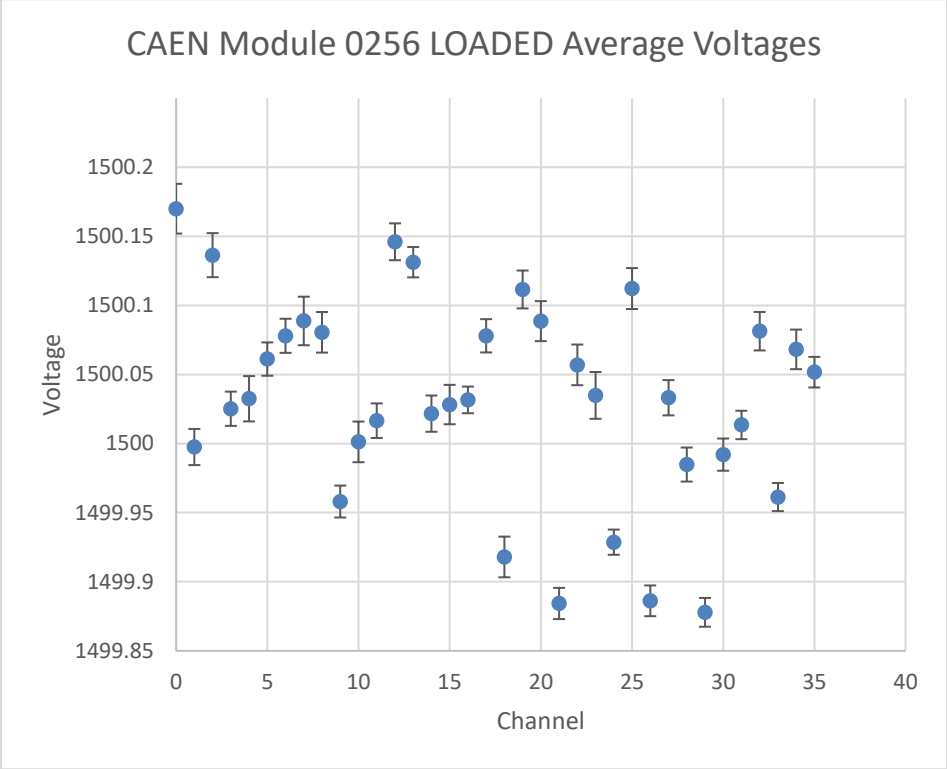
Peter Bonneau, Marc McMullen, Tyler Lemon

- Developing integration of the cryogenic measurement program into fsNMR
  - ✶ Helium temperature and liquid level from the instrumentation are sent to the fsNMR program via global variables
  - ✶ Measurements are data logged and the data file will be integrated into the fsNMR run directory structure
- Added new tab to fsNMR which will display sensor data
  - ✶ Sensor data will be updating all the time, even when the fsNMR is not running scans

Hall C CAEN - HV Test

Aaron Brown, George Jacobs

- Continued analysis of stability test data
  - ✶ A few graphs have been uploaded to the NPS technical documentation section on the DSG website
  - ✶ Performed high voltage data analysis with Excel files - #0184 and #0256 with load



Average voltages for all channels of board #256 from stability test with load

Hall C- Magnets CSS Screen Development

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

- Continued development of HMS Dipole NMR CSS screen
- Debugged issues with rule logic used to change appearance of indicators on screens to signify faults or statuses
- Investigated CSS Macros
  - ✶ Macros act as placeholder text that is programmatically replaced with user-set values to allow a generic screen to be automatically modified for specific instrumentation
- Investigating how best to reduce the number of rules and scripts needed on CSS screens to get the same behavior as HMI screens

Hall C – CSS-BOY Screen Development for Checklist

Peter Bonneau, Aaron Brown

- Continued revision of "first draft" of CSS-BOY screen for the Hall C Shift Checklist
  - ✶ Reviewing JMenu for missing checklist information

Hall C – NPS

Aaron Brown, Mindy Leffel

- Terminated 40 HV diverter cables, current total is 130 cables

EIC

- Reviewed beamline/tracker integration

Engineering

- Populated the last of the Beam Position Monitor boards

Training

Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, Tyler Lemon

- Systems Engineering Lecture Series Class 2: *Systems Engineering Modeling*
- MED 13

DSG

- DSG website development
  - ✶ Redesign of HDice technical documentation section
    - Created new section on HDice technical documentation links
    - Fifteen notes and talks linked to documentation area