Detector Support Group

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

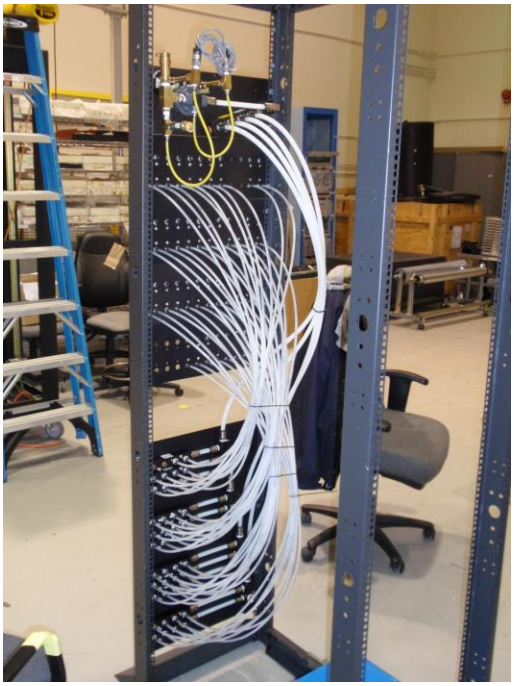
Weekly Report, 2021-02-10

Summary

Hall A – GEM

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

- Tested, successfully, pressure transducer portion of gas flow readout software up to 60 psi
- Placed gas pressure panel in SBS rack; routed the ½" and ¼" gas supply lines to and from the manifolds and to the flow meter valves



Gas pressure panel in SBS rack with gas supply lines

- Terminated 80 LEMO connectors; 120 of 272 BNC to LEMO cables terminated

Hall A – SoLID

Mary Ann Antonioli, Pablo Campero

- Revised *Cryo Controlled Reservoir – Expert* HMI screen
  - ✶ Modified locations of the valves and magnet
  - ✶ Added current leads tank
- Debugged I/O module communication errors between PLC and communication module (*MVI-94 ASCII*)
- Developing Python code to store and save parameters displayed by the *Valve Setup* CSS-BOY screen
- Tested, successfully, PLC code which calculates the set value for the helium mass flow rate (L/min) in the current leads
- Added date and time box to 11 SoLID CSS-BOY screens

Hall B – RICH II

Peter Bonneau, Tyler Lemon

- Debugging SHT-35 drivers to run on sbRIO
  - ✶ Noted issues with portion of the code responsible for transferring data between FPGA and Real-Time processor

Hall B – SVT

Peter Bonneau, Mindy Leffel

- Tested, successfully, system override switches for the chiller interlock and Mpod power supplies via remote cRIO connection

Hall C – NPS

Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Pablo Campero, George Jacobs, Mindy Leffel, Tyler Lemon

- Developed, using Python PyEPICS library, Radiall 52 to SAMTEC connectors HV cable testing program
- Developing test fixture with chassis to house load resistors for testing of Radiall 52 to SAMTEC connectors HV cable
- Developing, using Python, Power On/Off CSS-BOY screen for CAEN modules
- Developing layout of sensor readout instrumentation for Hardware Interlock System using Keysight switch/measurement unit and multiplexer modules
  - ✶ Three modules are used for thermocouples, two modules to readout RTDs, and one for humidity sensors

Sensor Type	# of Wires	# of Modules	Keysight Channels	Allocated Channels	Spare Channels
Type K Thermocouples	2	3	120	112	8
RTD's	4	2	40	34	6
Humidity	2	1	40	22	18

- Terminated SAMTEC end of three Radiall 52 to SAMTEC connectors HV cables; four of 40 cables completely terminated

EIC

Brian Eng

- Independent Cost Review completed, recommended to proceed to CD1
- Attended User Group and Silicon Consortium meetings

DSG – Implementation Team

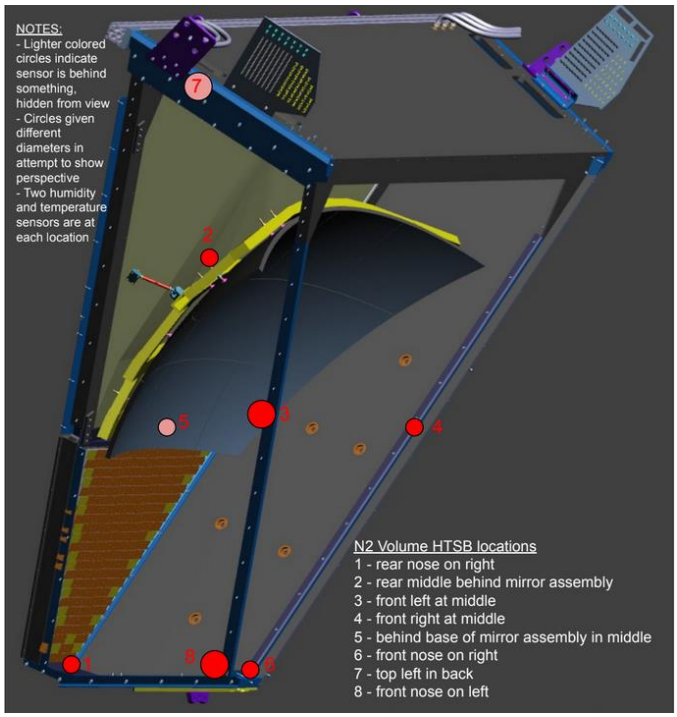
Marc McMullen

- Attended first meeting of the Plan of Action and Milestone #10 implementation team
  - ✶ Focuses on the construction and modification requirements for custom and non-NRTL (Nationally Recognized Testing Laboratory) electric equipment

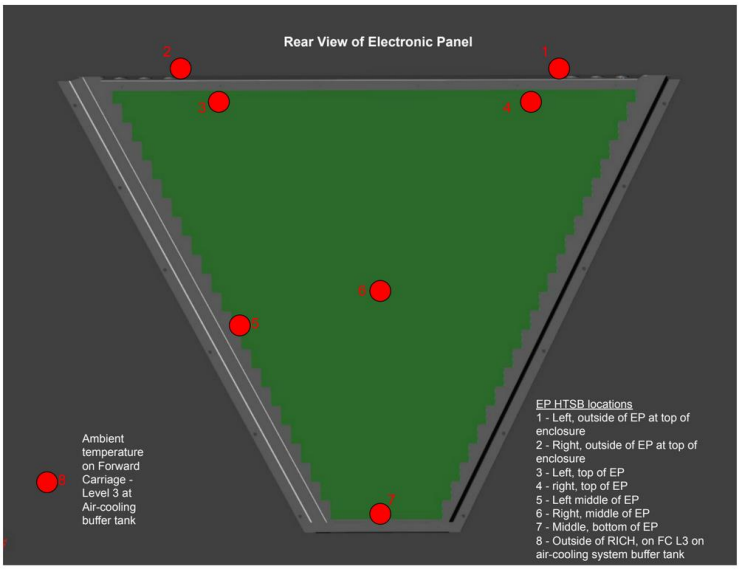
DSG R&D – RICH

Peter Bonneau, Tyler Lemon

- Generated diagram showing location of hardware interlock Humidity and Temperature Sensor Boards in RICH I



HTSB locations in RICH N_2 volume



HTSB locations in RICH electronic panel