

Detector Support Group

We choose to do these things "not because they are easy, but because they are hard". Weekly Report, 2020-11-11

Summary

Hall A – SoLID Magnet Controls

<u>Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng,</u> <u>Tyler Lemon, Marc McMullen</u>

• Completed Solenoid Liquid Levels - Expert HMI screen

11/11/2020 SoLID Solenoid 1:23:43 PM Liquid Levels - Expert	
Liquid helium level LL_He: 103 64 % PLC ADC Channel Fault Low Level Limit : 10.0 % High Level Limit: 105. % Out of Limits Status	EPICS 4K Flow Limit: 60.00 g/s PLC Set Limits to EPICS 4 K Flow High Limit : 30.00 g/s Low Limit : 5.00 g/s Override Flow Limit : 20.0 g/s 4K Flow Limit Override PLC 4K Flow Limit: 30.00 g/s
Liquid nitrogen level LL_N2 25.00 % PLC ADC Channel Fault Low Level Limit : [-30.] % High Level Limit : [100.] % Out of Limits Status	LM-510 Liquid Cryogen Level Monitor Power Cycle Level Meter Off

Solenoid Liquid Levels – Expert HMI screen.

• Developing SoLID Liquid Levels - Expert CSS-BOY screen

Hall A – GEM Detector Gas Distribution System

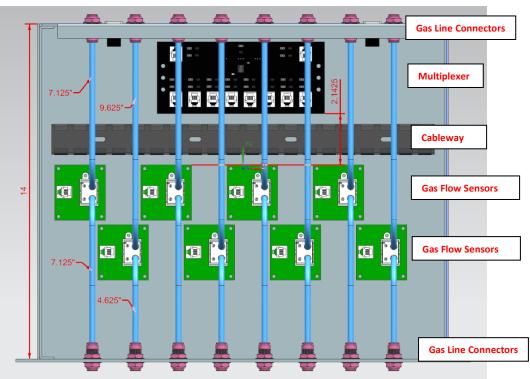
Peter Bonneau, Brian Eng, George Jacobs, Mindy Leffel, Tyler Lemon, Marc McMullen

• Created, using NX12, new model of flow sensor chassis with components spaced to allow for a cableway between the multiplexer and flow sensor PCBs



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New version of GEM Gas Flow Sensor Chassis with cableway.

• Modified, using Python, gas flow readback program to return the status of gas flow sensor (1 for "GOOD", 0 for "BAD")

<u>Hall B – RICH</u>

Brian Eng, George Jacobs, Tyler Lemon

- Noticed one of the three aerogel dry boxes was reading 28% humidity
- Removed aerogel tiles from broken dry box and placed them in the other two dry boxes

<u>Hall B – SVT</u>

Peter Bonneau, Mindy Leffel

- Reviewed and documented SVT Hardware Interlock disconnect system design
- Terminated 13 of 18 disconnect cables with CPC connectors

Hall C – NPS

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

- Debugging EPICS communication issues noticed during CAEN HV module ramp tests with CSS-BOY script
 - * Some channels did not ramp properly, or at all
 - ★ Developing Python program that uses PyEpics to conduct ramp test to resolve EPICS communication issues
- Updated Hardware Interlock Input Signals list



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Sensor Type	Qty	Sensor Location
Temperature thermocouples	112	NPS Crystal Array (56 front - 56 Rear)
Temperature - RTD's	10	Detector internal frame
Temperature - RTD's	2	External ambient (Hall)
Humidity	10	Detector Internal frame
Humidity	2	External ambient (Hall)
Fan Speed	4	Electronics Zone Heat exchangers
Contact switch	2	Frame access door (HV Safety)
Coolant Leak Sensor	2	NPS crystal & electronics zone

• Three hundred and forty-three of 1080 PMT Settings screens developed