



Detector Support Group

Weekly Report, 2015-10-21

Antonioli, Mary Ann

Hall B

DC

- Reviewing the 2004 LabVIEW code for testing CAEN HV cards.
 - ★ Identified and updated outdated portions of the Current Monitoring Resolution and Accuracy test, Voltage Stability test, and Overcurrent Protection that are not supported by current version of LabVIEW.
 - ★ Began to re-code Voltage Variation test.
- Documented test data of 21 signal cable bundles.
 - ★ R3S1 and R3S2SL5 completed this week.
 - ★ Ten connectors were replaced in these bundles.
- Inventoried HV cards and mainframes and began spreadsheet.

HDICE

- Attended bi-weekly meeting.

Arslan, Sahin

Hall B

DC

- Transferred R2 cables from EEL to ESB
 - ★ 6 baskets (512 cables)
- Transferred R3 cables from ESB to EEL
 - ★ 6 baskets (512 cables)
- Labeled 21 bundles of signal cables.

Hall D

- Attended Tech meeting
 - ★ Technicians are working currently on Coil 2 (welding).
 - ★ Goal: get beam back on November 15, by then alignment of magnet and cryogenic leak check needs to be completed.
 - ★ Starting cool down of Solenoid by December 1st, after leak checks are done

DSG

- Reconfigured work area in EEL 2nd floor
- Rearranged small clean room.

Bonneau, Peter

Hall B

HDICE

- Conducted bi-weekly status meeting.
- Completed initial software debug of manual mode using modified code and a single power supply for the test.



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- Debugged Oxford power supply error indication in manual mode while fast ramping. Error message is “system warning” rather than “sweep rate out-of-bound”.
- Tested up to 120 [A] the Current Calibrator Station consisting of the Krohn-Hite model 523 calibrator and the Fluke Transconductance Amplifier.
 - ★ Setup will be used in the calibration test of the CAENs Current Transducer Box.
 - ★ Once power supply protection shield is completed, dual power supply testing in both manual and automatic modes will start.
- *As per additional request:* upon completion of automatic rotation, a manual control option to allow the expert operator to make adjustments will be added.
- In manual mode, will add the following capabilities:
 - ★ Ramping both supplies at the same time.
 - ★ Enable both the "set field" and "set current" functions.

Hall D

- Attended Slow Controls Meeting.
 - ★ Reported on status of Mya configuration files for monitoring detector health.
 - ★ Spoke to Tim Whitlatch regarding the work after the meeting. He is interested in the development of the files for his Hall D work.
- Examined slow control systems on a daily basis.

DSG

- Reviewed HV Multiplexer and Load Box and LabVIEW code for the CAEN HV Test Stand.
- Completed computer configuration for new DSG technician..

Butler, Dave

Hall B

HTCC

- Worked with Marc to install the temporary gas system in the TEDF.
 - ★ Youri Sharabian needs to install the gas line into the mass flow controller. There is high noise on the output of the humidity sensor. As reading is taken across a shunt resistor, noise should be localized from the readout to the cRIO. Will try software filtering to reduce the noise.
- Attended the slow controls and CLAS12 schedule collaboration talks.

Hall D

- FDC end windows were suspected of building charge due to the aluminized mylar not being shorted together. Modified one of the end windows on the spare package in the tagger building so that Lubomir Pentchev could perform testing.
 - ★ Testing showed that shorting made an improvement; it was determined that a permanent solution was required, so came up with a solution that involves cutting small flaps on the periphery of the end window and applying a conductive epoxy



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- Noticed in the hall that relays for the magnet cooling EV valves were chattering at a high frequency. Contacted cryo and decided to put the EV valves into manual control to stop the chattering until the magnet was being cooled again.
- Attended the FDC meeting: <https://halldweb.jlab.org/wiki/index.php/Minutes-10-15-2015>

Eng. Brian

Hall B

SVT

- Updated survey database with new (hopefully final) data from survey group.

HDICE

- Continued work on converting notebooks.
 - ★ Still trying to get in touch with Craig about issues with file parsing and crashing.

HPS

- Debugging bad RTD value (SVT Return) on HPS SVT interlock PLC.
 - ★ Found to be caused by a failed sensor: <https://logbooks.jlab.org/entry/3355014>

DC

- Converted HV Test board schematic and PCB from P-CAD to Altium after trying to open the files directly failed.

Hall D

- Attended DC and Slow Controls meetings.
- Updated PXI LabVIEW code to provide 10 [k samples/s] to IOC for ROOT file.

Jacobs, George

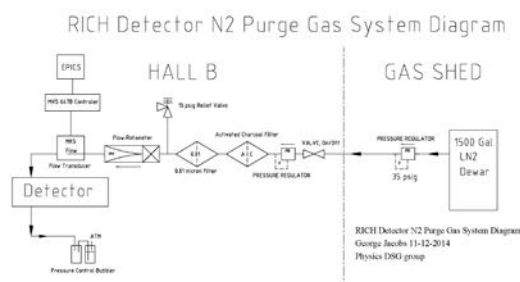
Hall B

DC

- Checked status of work on L3 South space frame.
 - ★ All racks and utilities have been removed, only the steel work remains.

Gas System

- Ordered 30% CO₂ in Argon gas for PRad.
- Reviewed the N₂ gas purge system design for RICH, see attached file; RICHGAScontrols.pdf.



RICH gas system



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- Attended meeting on EEL rm 125 space plan for incoming MicroMegas and RICH detectors.
 - ★ Mac M, Stepan S, Eugene P, Walt A, Brian E, Mary Ann A, Marco B.
 - ★ Clean up rm 125, remove unused items, excess certain items, to open up space at back of the room for incoming equipment long term testing.

Leffel, Mindy

Hall B

DC

- Replaced 11 signal cable connectors:
 - ★ Two had an “arc”, two had transposed wires, and seven had broken connectors.
- Worked with Sahin: moved tested Hall B DC R2 signal cables to the ESB and R3 cables to be tested to the EEL; moved two CAEN power supplies and their cards, from the ESB and Hall B counting to the EEL, for testing; and labeled R3 signal cables

DSG

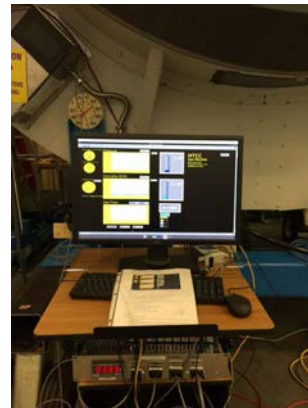
- Finalized arrangements for forklift training.
- Attended meeting to discuss organization of clean room and inventory of storage cabinets.

McMullen, Marc

Hall B

Gas System

- Installed both chassis and a display, with Butler, in the HTCC area of the TEDF.
 - ★ Monitoring program is running and logging pressure (~ 0.02 inH₂O) and humidity ($\sim 1.3\%$).
 - ★ The mass flow controller still needs installation, all components are ready, but the gas lines will need isolating to do the install. This is on temporary hold.



HTCC and read out display



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	A	B	C	D
1	Date and Time	Pressure (inH2O)	Humidity (PPM)	Flow (lpm)
2	Tue 13 Oct 2015 12:44:37 PM UTC	-0.0005	10.718	-1.416
3	Tue 13 Oct 2015 12:44:38 PM UTC	-0.001	10.604	-1.416
4	Tue 13 Oct 2015 12:44:39 PM UTC	-0.0007	10.674	-1.416
5	Tue 13 Oct 2015 12:44:40 PM UTC	0.0002	10.647	-1.416
6	Tue 13 Oct 2015 12:44:41 PM UTC	0	10.552	-1.416
7	Tue 13 Oct 2015 12:44:42 PM UTC	-0.0009	10.581	-1.416
8	Tue 13 Oct 2015 12:44:43 PM UTC	-0.0009	10.565	-1.416
9	Tue 13 Oct 2015 12:44:44 PM UTC	0	10.656	-1.416

HTCC gasflow data log

HPS

- Performed troubleshooting on the HPS PLC with Eng. One of the RTDs mounted in the HPS SVT is not working properly. Measurements conclude that the sensor is bad. We will provide HPS with another sensor to install.

Hall D

- Attended FDC/CDC meeting. Topics covered:
 - ★ The software update to mitigate the sagging straws in the CDC.
 - ★ FDC plots with the FE source in the tagger will be presented as an abstract to for the Vienna conference.
 - ★ Testing the preamps for reflection seen in the hall but not in the lab.
 - ★ New FDC chiller installed, flow is slightly less.

DSG

- Started setting up PLC work station, which will be used to test and develop code.

Sitnikov, Anatoly

Hall B

DC

- Tested 23 signal cable bundles.
- Cleaned 200 connectors.