



## Detector Support Group

### Weekly Report, 2015-10-28

#### Antonioli, Mary Ann

##### Hall B

###### DC

- Re-coding Voltage Variation test for testing CAEN HV cards.
  - ★ Changed “set voltage”, “expected voltage”, and “set current” to front panel controls, instead of constants within the program.
  - ★ Added maximum and minimum voltage indicators to front panel.
  - ★ Began researching write-to-spreadsheet vi.
- For CAEN test setup, moved test box from mezzanine, with Sahin’s help, and researched cable to be used between test box and CAEN mainframe.
- Documented test data of 14 signal cable bundles.
  - ★ Region 3’s S2SL6, S4, S5, and S6SL5 completed this week.
  - ★ Nineteen connectors were replaced in these bundles.

##### DSG

- Attended collaboration meeting sessions: Hall B status, 12Gev status, and Lab status.
- Served on the hiring committee for TDI term.

#### Arslan, Sahin

##### Hall B

###### DC

- Transferred R3S1-S2-S4 cables from EEL to ESB.
  - ★ 3 baskets (252 cables).
- Labeled 42 bundles of signal cables.

###### HDICE

- Transferred spare Oxford power supply from HDICE test lab to rm. 121 (control room).
- Fabricated safety cover shield made of Lexan, for Oxford power supply.

##### Hall D

- Shorted the aluminized mylar on the FDC end window that is currently on the spare package.
  - ★ This was done to reduce charge that was seen on the signal while monitoring with an scope.
  - ★ A Strontium source was used to provide the signal.
  - ★ Cut flaps (precision), mixed and applied conductive silver epoxy.

##### DSG

- Fabricated test chassis for National Instruments modules.
- Reconfigured work area in rm. EEL 121C (DSG control room).
- Rearranged DSG clean room (EEL 121A).



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#### **Bonneau, Peter**

##### **Hall B**

###### **HDICE**

- Developed manual mode initialization sequence for 1<sup>st</sup> power-up.
  - ★ This initialization sequence must be done upon turning on the power supplies. By default, the supply remembers the last current/field set point and will ramp to the previous setting in manual mode, when the initialization hold function is released.
- Modified manual mode operation to allow simultaneous ramping of both axial and transverse power supplies.
- Wrote code to support requested *dual mode set functions* for both set field and set current in manual mode.
- Wrote sub-VIs that support manual control option upon completion of automatic rotation.
  - ★ Requested by HDICE group to allow expert operator to make adjustments at the end of automatic target polarization rotation.
- Modified front panel operator controls to set and display ramp speeds in [A/min] rather than in [A/s].
- Added graphical representation of the automated rotation sequence to the front panel.

###### **SVT**

- Updated remote monitoring program to display all system interlock values.

###### **DC**

- Reviewed LabVIEW code for automatic control of Excel file.
  - ★ The upgraded CAEN HV Test Stand will use this feature rather than writing text files for the test results.

##### **Hall D**

- Reviewed firmware update documentation for the 125 MHz Flash ADC module.
  - ★ Both the CDC and the FDC use the fADC125 module.
- Examined status of slow control systems on a daily basis.

##### **DSG**

- Researched and ordered components for an Allen- Bradley PLC Test Station.
- Upgraded VME Test Stand Computer to LabVIEW 2015.
- Serving on the hiring committee for the technician position opening in the DSG.

#### **Butler, Dave**

##### **Hall B**

###### **HTCC**

- Worked on a plan to add a mass flow controller to the output of the HTCC temporary gas system.
  - ★ Feature will enable measurement of delta flow (In-Out) to determine size of leak and will be able to monitor if additional sealing is effective.

##### **Hall D**

- Attended FDC meeting: <https://halldweb1.jlab.org/wiki/index.php/Minutes-10-22-2015>



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### Weekly Report, 2015-10-28

#### **Eng. Brian**

##### **Hall B**

###### **SVT**

- Meeting: Progress of validation suite software.
- Working with J. Ruger on getting calibration software installed and running on hblin4.
- Upgraded svtsystem1 to RHEL 7 so Sergey could install CODA 2 on it.
- Copied all EVIO data files from local RAID to volatile on ifarm in preparation to move it to tape.

###### **HDICE**

- Ordered Type N connectors for 0.25" semi-rigid cable, which will require an adapter to be machined to use with Temp-Flex 141-1701 as it is only 0.158" (still no quote from Molex for native connectors)
- Continued work on converting Mathematica notebooks; managed to get main scan notebook not to crash Mathematica; still produces loads of errors and no useful plots.

##### **Hall D**

- Updated PXI to LabVIEW 2015.

##### **DSG**

- Installed LabVIEW 2015 Dev Suite 2 and Aug 2015 Device Drivers on various computers

#### **Jacobs, George**

##### **Hall B**

###### **Gas System**

- Requested and received quote from Graybar electric on proposed material for DCGAS exhaust manifolds, Corrlock CLL17, extruded nylon 6 corrugated tubing, to verify compatibilities, ordered 30 ft section.
- Checked status of L3 space frame for DCGAS equipment installation.
  - ★ Area is now 100% clear, ready for placement of the tanks and solenoid valve panel. Waiting for location and footprint of vacuum pumps.
- Restarted gas flow to purge the DC test stand in EEL rm. 125.
- Ordered 25% CO<sub>2</sub> in argon gas for preliminary GEM testing.
- **DC**
- DCLV cable lengths discussions with Chris Cuevas.
- DC cable and cable tray meeting with Bob Miller.
  - ★ Went over the basis of DCLV length estimates, routing from the detector to the racks, and the path lengths along the routing.
  - ★ Total length of the cut cables is 16,380ft.
  - ★ About 800 ft of the 18,000 ft purchased was used for the DC test setups.
- R1 cable tray design ready to send out by the end of month.
  - ★ Installation time for R1 trays will be April, 2016.
- Attended TDG meeting. Issues discussed:



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- ★ Status of LTCC boxes, HTCC noise, TORUS welding status, L3 space frame status, adding a full size rack to L3 space frame for gas systems controls.
- ★ Attendies: Bob Miller, Glenn Young, Dan Carman, Eugene Pasyuk, Saptarshi Mandal, Youri Sharabian, Maurizio Ungaro, and Doug Tilles.

### Leffel, Mindy

#### Hall B

##### DC

- Replaced 15 signal cable connectors:
  - ★ Four had transposed wires, six broken connectors, and five miscellaneous issues.
- Worked with Sahin, moving tested Hall B DC signal cables to the ESB.
- Replaced argon-CO2 10% cylinder for the DC test stand in 90/125.

#### Hall D

- Shorted aluminized mylar on end window currently used on spare package of the FDC.
  - ★ Cut flaps in mylar, then mixed and applied conductive silver epoxy.

#### DSG

- Forklift training, classroom and practical, in Chesapeake.
- Attended meeting to discuss organization of clean room and inventory of storage cabinets.

### McMullen, Marc

#### Hall B

##### Gas System

- Reinstalled, for the HTCC, monitor program after Dave fixed some performed debugging of the moisture signal.
- Reduced noise on moisture and pressure signals by connecting both signal returns to the cRIO common.
- Updated the cRIO to LabView 15.

#### DSG

- Continued setting up PLC work station.
  - ★ Installed Studio 5000 software on laptop and RS Logix on desktop.
  - ★ Tested Studio 5000 with a short code written to the emulator.
- Upgraded PC to LabView 15.

### Sitnikov, Anatoly

#### Hall B

##### DC

- Tested 37 signal cable bundles.
- Cleaned 290 connectors.