

## DSG Weekly Report – July 29, 2015

### Antonioli, Mary Ann:

#### Hall B

##### DC

- Coordinating and overseeing activities on signal cable sorting, repairs, cleaning, testing, and inventorying.
  - ★ Made spreadsheet for tracking and archiving test results.

##### HDICE

- Began flowchart in AutoCAD of LabVIEW program for rotation of target polarization.

##### SVT

- Fabricated two 100' chiller-disable cables.
  - ★ 9-pin CPC connector to ferrules.

#### Hall D

- Attended DSG group's daily meeting on magnet and detector performance.

### Arslan, Sahin:

#### Hall B

##### DC

- Transferred R1S1 and R1SL2 signal cables to EEL Bld. for testing.
- Set up test stand for signal cables.
- Testing signal cables with oscilloscope and signal generator.
- Met with Dr. Chandler at ESB to discuss ergonomic aspects of cable testing.
  - ★ Demonstrated work procedure.

##### SVT

- Re-routed cables.
- Soldered broken LV cable.
- Re positioned carriage for survey.
- Set up Hardware Interlock Test Stand with Peter Bonneau.

#### Hall D

- Attended DSG group's daily meeting on magnet and detector performance.
  - ★ Covered BCAL voltage controls, temperature, and humidity screens.
  - ★ Viewed FDC gas flow and soft interlocks.
  - ★ Trained on controls systems.

### Bonneau, Peter:

#### Hall B

##### HDICE

- The test computer in the cleanroom died.
  - ★ PC will not power up.
- AC distribution panel for Oxford superconducting magnet power supply connected.
  - ★ Power breaker on rear panel of power supply found to be *off* and inaccessible due to protective shield, which was modified – power supply successfully powered-up after resetting breaker.

- Initial testing of CT-box with CAENels Windows-based CT-Viewer version 1.0 program reported an error on current shunt head-warm-up.
  - ★ Shunt head didn't reach full calibration operating temperature.
- Program CT-Viewer version 1.0 would not allow for zero-current-level shunt-head calibration. Further, auto-scaling on measurement graph display was not working.
- Contacted CAENels regarding problems with CT-box. They sent a firmware upgrade which was successfully installed. They sent version 1.1 of the CT-Box viewer program.
- After firmware and CT-box viewer upgrades, the warm-up error and zero-current head calibration functioned correctly.

### SVT

- Bench tested individual interlock sensor disables.
  - ★ Each sensor monitored by the Hardware Interlock System has a disable to allow users to take a defective sensor out of the interlock chain. Disables are used when monitored HFCB's are not powered.
- Developing watchdog sub-VI's for Hardware Interlock System.
- Programmed user interface system status message display.
- Added relay status monitoring to user interface.
- Developed interface for remote system monitoring via NI Distributed System Manager program.
- Debugged cRio compiling errors on downloaded real-time interlock program.

### Hall D

- Attended DSG group's daily meeting on magnet and detector performance.
  - ★ Reviewed problems with CDC gas system's mass flow controller.
- Attended controls meeting held by Hovanes.
  - ★ Discussed Mya viewer configuration files. Hovanes is setting up an area for these files which will be used for detector troubleshooting and analysis.

### Butler, Dave:

### Hall B

#### Gas system

- Programmed the Easidew moisture sensors to read in ppm and updated local readouts to match the ppm change.
- Ordered a programmer from Mitchell instruments to be able to program the sensors ourselves – don't have to send them to the vendor; calibrations can be done with the programmer as well.
- Visited Hall B with Marc to see where PID test equipment for the gas system would be located, in preparation for moving the cRIO system to the hall.

### Hall D

- Implemented a new alarm for the FDC/CDC gas system's mixing operation.
  - ★ Alarm not triggered:
    - If signal from the PLC to mass flow control unit TRUE, AND, flow from both of mass flow controllers > 0.1 lpm.
  - ★ Alarm triggered:
    - If flow from one or both of the flow controllers < 0.1 lpm.
  - ★ Hovanes is adding the new alarm to EPICS.
- Trained Marc and Sahin on BCAL's N<sub>2</sub> chiller operation, during filter changes and on start counter temperature monitoring.

- Trained Hall D staff on how to restart the chiller after filter change was completed.
  - \* Restart requires software interlock to be bypassed until chiller reaches proper flow and temperature and then interlock is re-established.
- Attended FDC/CDC meeting.
  - \* FDC resolution is~ 180microns (specification of 200microns).
  - \* CDC may have sagging wires in some of the straws.
  - \* Minutes can be found at [https://halldweb1.jlab.org/wiki/index.php/FDC\\_Meetings](https://halldweb1.jlab.org/wiki/index.php/FDC_Meetings).
- Attended DSG group's daily meeting on magnet and detector performance.
  - \* Discussed FDC/CDC gas system, BCAL humidity, CDC HV and FDC HV/Current readouts.

## **Eng. Brian:**

### **Hall B**

#### **SVT**

- Cabled R1, R2, and R3 in horizontal position.
  - \* All R1—R3 modules are connected.

#### **HDICE**

- Received USB key from Craig Thorn.
  - \* Backed up files to hard drive and started looking through them. So far the files for one of the notebooks are present.

### **Hall D**

- Fixed problem with PXI → ROOT plotting, at least partially due to lower default array size that the PXI would send EPICS.

## **Jacobs. George:**

### **Hall B**

#### **Gas System**

- Updating LTCC gas system manual for LTCC window test.
- Created gas system diagram showing setup and controls for LTCC window test.
- Determined proper pressure regulator for pressure testing circuit of TORUS.
- Submitted HBLIST for DCGAS PID loop Testing/Development, task ID 1109; included following attachments:
  - \* DCGAS-controls-CLAS12-24-March-2015.pdf.
  - \* DCGAS-PID-connections.pdf.
  - \* DCGAS-manual-CLAS12-DRAFT-PID-DEVEL-TEST.pdf
  - \* DCGAS-clas12-Block-Diagram-color.pdf.
  - \* DCGAS-clas12-piping-23March2015.pdf
  - \* PID-Testing-CriticalPath.txt
- Meeting on LTCC window test - Bob M, Maurizio U, Doug T, Morgan C, and David A

### **Hall D**

- Attended DSG group's daily meeting on magnet and detector performance.

### **DSG**

- Attended Physics Division's safety wardens meeting
- Discussions with Zhiwen Zhao about Cerenkov detector box design parameters and a C<sub>4</sub>F<sub>10</sub> gas system design

## **Leffel, Mindy:**

### **Hall B**

#### **Gas System**

- Terminated pressure read-back cable for the DCGAS.
- Cut three 40' cable for LTCC leak test.

#### **DC**

- Soldered 17, 100  $\Omega$  resistors to connector for testing signal cables.
- Repaired signal cable connector, R1S2-ST 7.1.
- Continued making labels for signal cables.

#### **SVT**

- Prepped HFCB for applying conductive epoxy.

### **Hall D**

- Attended DSG group's daily meeting on magnet and detector performance.

## **Mann, Tina:**

### **Hall B**

#### **Gas System**

- Helped cut cable for mass flow controllers and solenoid power.
- Fabricated cables.
  - \* Mass Flow Controller-One 40 ft-15 pin.
  - \* Solenoid power-Two 40 ft-2 pin.
  - \* cRIO-One 6 ft-37 pin.

### **Hall D**

- Attended DSG group's daily meeting on magnet and detector performance.

## **McMullen, Marc:**

### **Hall B**

#### **Gas System**

- Working on controls chassis for SFL1 (DC Gas/HTTC).
  - \* Internal wiring complete.

#### **SVT**

- Modified Hardware Interlock Chassis with a cable way.
- Researching *early make* switches.

### **Hall D**

- Attended DSG group's daily meeting on magnet and detector performance.
  - \* FDC and CDC voltage controls and current read-back were studied.
- Trained on PLCs and the recovery procedure for the FDC chiller after a trip.

### **DSG**

- Distributed safety documents presented at last week's Safety Warden meeting. Following documents were distributed:
  - \* Hazard Issue List.
  - \* Hall B Work Governance.
  - \* Work Planning Guidance

**Sitnikov, Anatoly:**

**Hall B**

**DC**

- Moved 7 bundles (50 ft for R1S1SL2) and 7 bundles(65 foot for R1S1SL1) from ESB to EEL with Sahin.
- Cleaned and dried 48 connectors for R1S1SL2 using alcohol and dry air.
- Tested 48 connectors using CTS-64 tester.
- Tested 48 connectors using PFA generator 81150A, DP oscilloscope 4054, and Flash Drive memory.