# DSG Weekly Report – May 13, 2015

## Antonioli, Mary Ann:

## Hall B

### LTCC

- Coordinating and overseeing activities: preparation of components, fabrication of divider boards, assembly of PMT bases, and testing of Winston cone's (WC's) reflectance, for this **project**.
  - Tina's rework of PMT bases and WC testing.
  - Mindy's rework of PMT bases.
  - Anatoly's work on divider boards.
- QC-ed fabrication and assembly of 24 reworked **PMT bases**.
- Computed reflectivity averages of 9 re-coated **Winston cones**.
- Accounted and updated spreadsheets of work done on **LTCC components**.

| Sector | Not Sent | Sent 1X | Sent 2X | Sent 3X | Total |
|---|---|---|---|---|---|
| U1 | 7 | 29 | 0 | 0 | 36 |
| U2 | 16 | 16 | 4 | 0 | 36 |
| U3 | 11 | 20 | 2 | 3 | 36 |
| U4 | 13 | 15 | 5 | 3 | 36 |
| U5 | 6 | 26 | 0 | 4 | 36 |
| U6 | 9 | 22 | 4 | 1 | 36 |
| Total | 62 | 128 | 15 | 11 | 216 |

Table shows, as of 5/13/15, how many times Winston cones were sent for laminations because measurements indicated that reflectance was poor. After initial measurement of reflectance of all 216 cones, reflectance is measured each time a cone comes back after re-lamination; in all reflectance measurements have been done (216+1*128+2*15+3*11 = 407) times! Seventy one of these cones had to be de-laminated and polished here before they could be re-laminated.

- Updated spreadsheet with locations (ECI, EEL 108, and TEDF) of **Winston cones**.

### HDICE

- Attended the daily meetings on **program development**.
- Programming in LabVIEW **rotation of target polarization**.
- Testing performance of **RF Attenuation/Switching chassis**.

## Hall D

### Meeting

- Attended DSG group's daily meeting on **magnet and detector performance**.
  - Looked at magnet quench problems.

## Arslan, Sahin:

**FMLA. Congratulations! Welcome baby Noah.**

## Bonneau, Peter:

### Hall B

**HDICE**:

- Conducted bi-weekly meeting on **project status**.
  - Presented status report and reviewed each work request.
  - Of the three hardware requests, two are waiting for test results and for final cable specifications from the HDICE group; the third has parts on order.
  - Mathematica programming requests are on hold until a data file is provided.
  - Met with CAEN representatives; they reported that the current shunt and current transducer-Box production is on schedule (Mid July); cautioning, development of the software and testing of the hardware is still under way at CAEN.
  - For the complete testing of the shunt system, development of the drivers, incorporating the new shunt code into the NMR program, debugging and complete system test, the *estimated completion date is end of October, 2015*. DSG cannot start these tasks until hardware is in-hand and working correctly.
- Requested for code debugging and for testing Oxford IPS-120-10 power supply, to test the **CAEN current shunt current transducer-box**.
- Developed specifications and procedures for automatic rotation of **target polarization**, with Xiangdong Wei.
- Reviewed the completed hardware upgrades and test programs of the RF Attenuation/Switching chassis in the meetings on **program development**.

**SVT**

- Developed system design documentation, hardware and software description, detector hazards monitoring, system block diagram, Mpod crate interlocks, chiller disable interface, fault charts, and coolant leak detection for the **Hardware Interlock System.**

### Hall D

- Attended DSG group's daily meeting on **magnet and detector performance**.
  - Examined cool-down of the solenoid and the BCAL EPICS screens.
- Monitored daily status of the **slow control systems**.

## Butler, Dave

### Hall B

**Gas System**

- Got the touch screen monitor working and calibrated cRio for the **gas system**.
  - Adding a structure for the GUI for each gas system. The PID test program will have priority.
- Met with Brian Reich from National Instruments regarding the equipment and software structure for the **gas system**.

### Hall D

- Performed time delay testing on the tap coil quench detector of the **solenoid**.
  - Injected a signal on VTT19 and verified that the PXI and the PLC read the signal correctly. The tap coil is now being rewired so that time testing on the o-scope can be done by measuring the

injected signal and triggering off of the PLC dump relay. This time will give a total lag time of the entire software QD system.

- Worked on the timing synchronization of the **PXI**, with Brian.
- Helped troubleshoot a DAq problem that ended up being an issue with **EPICS**.
- Attended meetings on **FDC** and **magnet**.
- Attended DSG group's daily meeting on **magnet and detector performance**.

## Eng, Brian:

### Hall B

#### SVT

- Located and installed video card in **svtsystem1 (EPICS computer on ACC dev subnet)**.
  - Submitted ACE PR to actually enable it since I don't have permission to do so.
- Debugging failed gain scans for **R2 & R3** after R3 installation.
  - Part that actually failed was the plotting, not the scans themselves. ***Once agai, failure was due to lack of disk space on work partition.***
- Ordered another flow meter for **R4 cold plate**.

#### HDICE

- Attended bi-weekly meeting on **project status**
  - In HDICE meeting Xiangdong reported that initial results with new NMR cable look good, but more testing is required before longer (and custom) lengths can be ordered.

### Hall D

- Cloned hard drive main partition and master boot record, prior to any changes of the **PXI**.
- Installed NI TimeSync Software on **PXI**.
  - After 4 days uptime EPICS PXI data still matches PLC data (comparing heartbeat signals) within the second, any offsets most likely due to EPICS insertion delays.
- Debugging lack of array data from **PXI**; ***turns out (once again) was due to the IOC, someone had recompiled the wrong software which was causing the problems.***
- Attended DSG group's daily meeting on **magnet and detector performance**.
  - Discussed CSS screens: BCAL (voltage, chiller, temperature).

## Jacobs, George:

### Hall B

#### LTCC

- Produced critical path plan for **window test with C4F10**.
- Shut down C4F10 distillation unit and transferred 47 lbs of recovered gas to the **supply tank**.
- Produced AutoCAD based diagram for **gas system piping**.

#### DC

- Disconnected control cables from the **DCGAS solenoid control box**.
  - Installed new load cell readout, need to zero and set span when the supply tank is replaced.
- Re-routed control cables on the space frame for **DCGAS**.

- Determined correct part numbers for replacement of **gas system's mass flow controllers and pressure transducers**.

### Hall D

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

## Leffel, Mindy:

### Hall B

#### LTCC

- Modified 12 bases of the **PMTs**.
- Populated 24 divider boards for the **PMTs.**
- Repaired solder work (cold solder joints, excess solder and solder shorts) on 72 divider boards of the **PMTs.**
- Met Mauri at the ESB to determine best way to access the remaining **PMTs**.

#### CTOF

- Inspected soldering of three **PMTs**.
  - No issues were found.

## Mann, Tina:

### Hall B

#### LTCC

- Installed divider boards on 12 **PMTs**.
- Searched and located all **Winston cones**, with Mary Ann.
- Aligned and calibrated A and B pinholes on the **reflectance test stand**.
- Set up reflectance test stand for **mirror test**.
- Tested reflectance of two re-laminated **Winston cones**.
- Inspected for issues: dirt, dust, de-lamination, and smudges, of re-laminated **Winston cones**.

## McMullen, Marc:

### Hall B

#### SVT

- Finalized cost estimate for the **gas system PID/Controls Chassis**.
  - System will use three chassis, two in the hall (Space Frame and Forward Carriage) and one in the gas shed. The chassis will provide a patch connection for the PID loop elements, power to the mass flow controllers, and act as a mount for the hygrometers.
- Added two spreadsheet pages to **gas system cost**.
- QC-ing final batch of **HFCBs**.

- Completed tests for 6 boards. There are 7 boards left which have been visually inspected and have had the retention screws added to the data connectors.

## DSG/Safety

- Conducted safety walkthrough of the **EEL building**, with the associate safety warden of EEL.
  - Prepared report to submit to the area owners in the building.
- Conducted training session with Leffel and Mann on **gas bottle handling**.
  - As part of training the Argon/CO2 mixture bottle in EEL room 125 was changed out.

## Sitnikov, Anatoly:

### Hall B

#### LTCC

- Soldered 48 resistors and 24 capacitors for **PMT bases.**

## Teachey, Robert Werth

### Hall B

#### HDICE

- Completed LabVIEW test program for the **RF Attenuation/Switching chassis**.
- Completed a "Pre"-Test of the **RF Attenuation/Switching chassis**.
  - Tested both NMR and adiabatic fast polarization (AFP) attenuators for proper attenuation with a function generator and O-scope.
- Reviewed test procedure, with Mary Ann who will complete the formal chassis testing, for **RF Attenuation/Switching chassis**.
- Packaging code from the RF Attenuation/Switching chassis LabVIEW test program into functions that can be used in the LabVIEW **NMR Control code**.
- Organizing to implement new functions, the 2015 version of the **NMR Control Code**.
- Attended the daily meeting on **program development**.